The Bristol Medico-Chirurgical Journal.

"Scire est nescire, nisi id me
Scire alius sciret."

DECEMBER, 1912.

Robert Fletcher.

In 1881 I paid my first visit to the great Library of the Surgeon-General's Office, Washington, to look up the literature of Echinococcus disease in America, a subject in which I had become interested. At that date the Library had not yet moved from the old Pension Office, and the books had far outgrown the capacity of the building. It was my first introduction to Dr. John S. Billings, at present the head of the Public Library, New York, to whose energy and perseverance the profession of the United States is indebted for one of the greatest collections of medical works in the world. He handed me over to the care of an elderly gentleman, who very quickly put at my disposal the resources of the library, and for two days did everything in his power to further my wishes. This was the beginning of a warm friendship with Dr. Robert Fletcher, and during the thirty years which have since passed I always found him a kindly, wise, and generous adviser in all matters relating to medical bibliography. Probably few men in the profession owe a deeper debt of gratitude to the Surgeon-General's Library than I.

Not only did I enjoy the friendship of the officials of all grades, but from the library itself, and from its two great publications—the *Index Catalogue* and the *Index Medicus*—I have had constant help in my literary work. Among the many congratulations I received last year on the occasion of my baronetcy, none touched me more than a round-robin sent from all the staff of the museum and the library.

The general facts of Dr. Fletcher's life may be briefly told. He was born in Bristol, March 6th, 1823, the son of Robert Fletcher, an accountant, and the business which he founded still continues under the name of Curtis, Jenkins and Co. For a couple of years he was in his father's office, but in 1839 he entered the Bristol Medical School. On June 22nd, 1912, he wrote: "I have always treasured my recollections of the Bristol Medical School and Infirmary with much pleasure and interest. I was articled to Surgeon Henry Clark for the usual five years, the last two of which I spent at the London Hospital, being a pupil of Surgeon James Luke, and of a physician on the medical side whose name I have forgotten."

In 1844 he became a Member of the Royal College of Surgeons and a Licentiate of the Society of Apothecaries. In 1843 he married Hannah, daughter of John Howe, Esq., of Bristol, and in 1847 went to the United States and settled in Cincinnati, where he practised medicine for some years. At the outbreak of the Civil War he was appointed to the first regiment of Ohio Volunteers, and after three years was commissioned Surgeon to the United States Volunteers, and placed in charge of Hospital No. 7, Nashville, Tenn. Subsequently he became Medical Purveyor to the Army at that post. At the end of the war he was breveted Lieutenant-Colonel, and afterwards Colonel, for faithful and meritorious service.

In 1871 he was ordered to Washington to the Provost-Marshall's Office in the War Department, and took part in the preparation of the two volumes of *Anthropometric Statistics* issued by that office in 1875, and contributed to them the special section on Anthropometry.

In 1876 he was transferred to the Surgeon-General's Library,

with which, for the remainder of his long life, he was intimately associated. A collection of books in connection with the Army Medical Department was begun during the Civil War by Surgeon-General Hammond, and continued by his successors, who found it necessary, after the war, to provide literature for the men who were preparing the great work on its medical and surgical history. The collections accumulated, and were housed at first in the Pension Bureau, under the care of Dr. John Billings, who began in 1873 the preparation of the *Catalogue*. Of this work, the famous *Index Catalogue of the Surgeon-General's Library*, Dr. Fletcher was until his death one of the principal editors.

In the preface to the first volume, 1880, Dr. Billings writes: "I wish to specially acknowledge the valuable assistance which I have received from Dr. Robert Fletcher in carrying this volume through the press, assistance which has gone far beyond mere routine or the limits of office hours, and without which I should have found it impossible to have done the work, and to have performed my other official duties."

The work is one of the greatest ever undertaken in the history of bibliography. In the first series of sixteen volumes, completed in 1895, there were indexed of author titles 85,663 volumes and 151,504 pamphlets, and of subject titles 168,557 books and 511,112 journal articles. Of the second series sixteen volumes have already been issued, nearly finishing the letter "S." The thirty-two volumes so far published furnish a medical reference catalogue of colossal proportions—of 286,255 book titles and 1,006,355 journal articles. Each volume contains nearly a thousand pages, closely printed, with from fifty to seventy-five separate references on each.

Those of us who have made frequent use of the *Index Catalogue* much have been impressed with one point—its extraordinary accuracy. In my experience it has been very rare indeed to find a mistake in the reference, either to the name of the author or to a journal. For this admirable accuracy we are indebted to the extraordinary care with which Dr. Billings, Dr. Fletcher, and Dr. Garrison have read the proofs.

The Army practice has been to assign a special surgeon to take charge of the library, over which he exercises general supervision. Since 1904 Colonel McCaw has been in charge, and his kindly interest and care of Dr. Fletcher have been much appreciated by all his old friends.

In 1879 Dr. Billings began the publication of the *Index Medicus*, an index month by month of the current medical literature of all countries. With this Dr. Fletcher was associated as co-editor for twenty-one years, and as editor-in-chief for nine years, having the active help of his friend and colleague Dr. Fielding H. Garrison. Of this work we may repeat what Dr. Billings said of the *Index Catalogue:* "The accuracy and typographical excellence of the volumes are largely due to Dr. Fletcher's careful and skilful supervision."

Perhaps from his early associations with the Law, Dr. Fletcher always took a deep interest in Medical Jurisprudence, on which subject he lectured for some years at the Columbian University, Washington. After the organisation of the Johns Hopkins Hospital Medical School he was appointed Lecturer on Jurisprudence there, and held the position from 1897 till 1903. He was a clear and attractive lecturer, and very popular with the members of his class.

Outside of his bibliographical work, Dr. Fletcher was specially interested in the subject of Anthropology, and contributed largely, as already mentioned, to the two volumes of *Anthropometrical Statistics* issued from the War Department in 1875. In 1882 he wrote a monograph on "Prehistoric Trephining and Cranial Amulets"; in 1883, "Human Proportion in Art and Anthropometry," and "Tattooing among Civilised Peoples"; in 1889, "Myths of the Robin Redbreast in Early English Poetry"; in 1891, "The New School of Criminal Anthropology"; in 1895, "Anatomy in Art"; in 1897, "Scopelism," the first paper on the subject in English. A paper on "Columns of Infamy" will appear in the *American Anthropologist*, and his essay on "Some Diseases Bearing the Names of Saints" appears in this issue of the *Journal*.

From its start Dr. Fletcher took a great interest in the

Johns Hopkins Historical Society, to which he contributed a number of valuable papers, of which the best were his essays on "Medical Lore in the Older English Dramatists and Poets" (1895), "The Witches' Pharmacopœia" (1896), and "A Tragedy of the Great Plague at Milan in 1630" (1898).

Dr. Fletcher's was an interesting and striking personality. Above the average height, always "well groomed," and with a dignified military bearing, age made him a typical courtly gentleman of the old school. He had a rare gift for friendship, and not only his associates in the library, but many of his colleagues in Washington, particularly Dr. Yarrow, men interested in libraries as the late Jas. R. Chadwick, of Boston, and all of his colleagues at the Johns Hopkins Hospital were devoted to him. After his Jurisprudence lecture at the Johns Hopkins Hospital, at the hospitable board of the Director, Dr. Hurd, many of us would gather, delighted to hear Dr. Fletcher's reminiscences of the profession, which went back to the forties. He had met Sir Astley Cooper, and he knew well the famous old men of the Bristol School, and could tell tales of the Middle West in the palmy days of Drake and Dudley and Caldwell. It was a rare treat to dine with him quietly at his club in Washington. He knew his Brillat-Savarin well, and could order a dinner that would have made the mouth of Cœlius Apicius to water.

All the honours came that should accompany old age. In 1906 he was given a banquet by the leading members of the profession in the United States, in recognition of his work at the Surgeon-General's Library. In 1910 the Royal College of Surgeons of England awarded him the honorary medal, which is given at irregular intervals to those who have made "labours, researches and discoveries eminently conducive to the improvement of natural knowledge and of the healing art."

No man ever aged more gracefully. He stuck to his work to the last. In the spring of 1911 he had a bad attack of diphtheria, from which he recovered very slowly, but he insisted on returning to the library, and read proofs to within a few days of his death. Not long before the end his friend and colleague, Dr. Garrison,

wrote: "Even on his grey days his wonderful will power and stoicism are something to command admiration. You have probably heard his favourite therapeutic *argumentum ad baculinum* for any bodily ailment, 'Treat it with contempt.'"

His name will be permanently associated in medical literature with the Surgeon-General's Library, and with the great works to which he was so important a contributor.

WILLIAM OSLER.

Note from an appreciation by FIELDING H. GARRISON, M.D., Washington, D.C.:

"With the death of Dr. Robert Fletcher, Principal Assistant Librarian of the Surgeon-General's Library for nearly thirty-five years, there passed away a Nestor of medicine who was looked up to and honoured everywhere for his intensive labours in medical bibliography, his rare scholarship and that courteous and cheerful spirit of helpfulness which, in the words of Dr. Howard Kelly, 'has endeared him to the entire profession of the United States.' Almost ninety when he died, his span of life, like Heberden's, extended over nearly a century, and with Heberden the scholar, as distinguished from the clinician, he had many points of resemblance. In his lifetime he had seen and met personalities so various and so widely separated in time as Sir Astley Cooper and Halsted, Daniel Drake and Sir William Osler, Emerson and the philosophers and poets of a later period. A native of England, he had served his adopted country for fifteen years with distinction as an army surgeon during the Civil War and afterward, and he was buried at Arlington with the honours commensurate with the military rank he attained."—*Journal of the American Medical Association*, November 23rd, 1912.

ON SOME DISEASES BEARING NAMES OF SAINTS.

BY

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WHILE the history of medicine has been written with diligence and research in various languages, and in some instances in a portentous number of volumes, there are still many unexplored byways which may lead to discoveries of interest, though they may be of no striking importance. The folk-lore of different peoples, popular superstitions in regard to disease, allusions to medicine in the old chroniclers, poets and dramatists, have contributed something of value to the history of medicine, and to a knowledge of the estimation of the physician in the popular mind. Among these outlying subjects for research the association of diseases with the names of the early saints and martyrs of the Christian Church offers a field which has been but little explored. I have been accustomed for many years to make notes of allusions in this direction, and the quantity thus obtained is really surprising. I have made no search for these references, but may say of them as Falstaff said of Hotspur's revolt—

> "Rebellion lay in his way, and he found it."

A few remarks upon the general subject, with illustrations from some of the more prominent diseases which have been thus provided with names, will, I trust, prove not uninteresting.

The printed works of the hagiographers, such as the *Aurea Legenda*, the *Catalogus Sanctorum* of Peter de Natalibus, Alban Butler's *Lives of the Saints*, the more recent work of Baring-Gould, and above all that monument of pious industry and research, the great Bollandist compilation, the *Acta Sanctorum*, which has now reached to nearly seventy-five folio volumes,

contain numberless accounts of the cure of disease by saintly offices. Such features as are merely miraculous form but an incidental part of the subject of this paper. A remarkable dictionary or directory of patron saints (*Die Patronate der Heiligen*), by Dietrich Heinrich Kerler, was published at Ulm in 1905.

From a very early period certain prevalent diseases have been associated with the names of saints who were supposed to take them under their special control. Strictly speaking, it is not correct to apply the title of " Saint " to these holy men and women while recounting their lives or achievements. That title could only apply after canonisation, which necessarily occurred after their death, and in many instances at a very long time, even a hundred years later. Nevertheless, it is convenient to speak of them as they are known in church history or legend. It must not be supposed that prayers and relics were the only curative methods employed by them in treating the diseased. Their simple pharmacopœia provided them with vulneraries and dressings, and as shrines and holy wells became established in reputation, the priests in charge acquired some knowledge of disease and of the modes of treating it. No doubt the fame of these holy places had a semi-miraculous origin, but not infrequently a hospital became in course of time an adjunct to the shrine, and gave a name which has been preserved to this day. We still speak of a lazar-house and a lazaretto, which names are derived from Saint Lazarus, and many an *hôpital Saint-Antoine* preserves the name of the good Saint Anthony.

An interesting feature in the history of saints, and which includes what I may venture to call saints in medicine, is their appearance in art. The early masters devoted a large part of their labours to illustrating religious subjects, and the particular emblem which denoted a saint or martyr was perpetuated with striking fidelity in the numerous paintings which adorned the churches. The subject of many a time-worn painting has through this custom been discovered and identified.

A curious circumstance in the history of saints in medicine is that they were not only believed to cure the diseases associated

with their names, but to inflict them also as a punishment. The origin and use of profane oaths, which dates from the earliest period of recorded history, forms an interesting part of the study of popular manners. Not only was the wrath of God invoked upon an enemy, but popular imprecations abounded in calls upon the saints to inflict disease. In Rabelais the Gargantua and the ingenious Panurge frequently pray that Saint Anthony's fire may visit a part of the body not to be mentioned in polite society. Sir Walter Scott, in his poem of "Marmion," makes the impatient Blount address his fellow squire Eustace, who was patiently listening to a long tirade of the Abbess—

> "Saint Anton fire thee! wilt thou stand
> All day, with bonnet in thy hand,
> To hear the lady preach?"

Endless illustrations might be given to show the accepted belief in this double function of the saints to inflict as well as to cure disease. One more must suffice. Barnabee Googe, a poet little known in these days, published in 1570 a translation of the *Regnum Papisticum* of Thomas Neogorgus, under the name of *The Popish Kingdome*. This work is full of curious lore about the saints and their achievements. It is so scarce that but three copies of it are known to exist, only one of which is perfect. It was reprinted, in facsimile of the old English text, in 1880. In speaking of Saint Valentine, who, in addition to his kindly care of lovers in the spring, had especial charge of epilepsy, our poet says—

> "Saint Valentine, beside, to such as doe his power dispise,
> The falling sickness sendes, and helpes the man that to him cries.'"

To this strange double function may well be applied the saying of Eliphaz to Job, when advising him to put his trust in the mercy of Jehovah—

> "He wounds and heals the wound:
> He strikes and His own hands heal."

Among canonised saints there are forty who are said to have been physicians. Three of the Popes are entitled to the same distinction, namely John XXII, Paul II, and Nicolas V.

When the saint was also a martyr, something connected with his torture or mode of death often determined the form of disease which he was afterwards supposed to control. In art, too, some token of the martyrdom nearly always appears. For example, Saint Agatha of Catanea was cruelly tortured before being put to death. Her breasts were cut off, and she is represented in art as holding in her hand a pair of pincers from which a nipple is protruding. Diseases of the female breast, therefore, fell to her charge, and in course of time she became the patron saint of nursing women. Saint Apollonia was another virgin martyr. Her jaws were broken and her teeth dashed out. She is represented in art as holding a tooth either in her hand or in a pair of pincers. A form of prayer to Saint Apollonia for the cure of toothache is still in use in some parts of France.

Notwithstanding the widespread custom of invoking the aid of the saints, it should be remembered that the Catholic Church does not authorise it. It is expressly declared in the Nuremburg Catechism that to ask their direct aid is pure idolatry, for their intercession with God should alone be asked. This also is declared to be not necessary, but only good and useful.

Defects of disposition as well as bodily diseases were under saintly control. If a child was given to over-crying, was disobedient and sullen, it was vowed to Saint Avertin, and a formulated prayer implored his aid for the young recalcitrant. His name and function are preserved in an old French adjective, *avertineux*, which Cotgrave in his *Dictionary*, published in 1632, defines as "dizzie, giddie, franticke, lunaticke, fantasticall, moodie, humorous, willful, obstinate, stubborne, sullen." The good saint must have been kept busy in family practice. Halliwell gives an old Anglo-Norman word *averty*, meaning "mad, fiery." The word *avertineux* is now obsolete in its original sense, but it is used in veterinary medicine to describe an animal which has the "sturdy or the gid," both of which words describe the staggering movements of a sheep with a cysticercus in the brain. The aid of Saint Avertin was also implored in cases of epilepsy and insanity. I have not met with him in art.

The token of martyrdom in early paintings has sometimes led to a purely commercial use. Saint Blaise, or Blasius, and, in Italian, Biagio, was a bishop of Armenia who suffered martyrdom under Licinius in the year 316. His skin was torn in shreds with a large iron comb, and he is represented in art as holding that instrument in his hand. From this circumstance, the Guild of Woolcombers in the Low Countries adopted him as their patron saint.

Saint Blaise was held to be potent in relieving diseases or obstructions of the throat. It is told that on the way to his martyrdom he extracted a fishbone from the throat of a boy who was at his last gasp, and restored him to life. There is a curious passage which refers to this saint in the works of Aëtius, the ancient Greek physician who flourished about the middle of the sixth century. It reads thus, translated—

" For the relief of those who have swallowed something [which has lodged] in the tonsils, immediately cause the sick one to sit obedient before thee, and say: ' Come forth bone, if bone thou be, or stick, or whatsoever thou mayest be, just as Jesus Christ brought forth Lazarus from the tomb, or as Jonah came out from the whale.' And, taking the sick one by the throat, say: ' Blasius the martyr and servant of Christ saith Either come up or go down.' " The edition from which this extract is made is the Latin translation of Basil, 1535. It is annotated by the learned Cornarius, but his only comment upon this surprising instruction is embodied in a marginal note, *superstitiosum.* There is no doubt that many popular medical superstitions are survivals of some ancient, perhaps very ancient, medical dogma, and this would seem to be a case in proof.

The parcelling out of the human body to the charge of different saints was made the subject of a humorous complaint by Sir John Melton in his *Astrologaster*, published in 1620. He says: " The saints have usurped the place of the zodiacal constellations in the governance of the parts of man's body, and for every limbe they have a saint. Thus, St. Otilia keepes the head instead of Aries; St. Blasius is appointed to govern the necke instead of Taurus; St. Lawrence keepes the backe

and shoulders instead of Gemini, Cancer and Leo ; St. Erasmus rules the belly with the entrayles in the place of Libra and Scorpius ; in the stead of Sagittarius, Capricornus, Aquarius and Pisces, the church hath elected St. Burgarde, St. Rochus, St. Quirinus, St. John, and many others which governe the thighes, feet, shinnes, and knees."

This passage is quoted at second-hand, the original work being extremely rare. The only copy of which I have heard is in the British Museum.[1]

Of St. Vitus it is needless to speak, as Hecker has brought together, in his treatise on the dancing mania, all that relates to that saint. St. John shares with St. Vitus the charge of convulsionists, but his vigil and feast-day are marked by a great number of strange observances and credulities. One of these was a cure for congenital hernia, over which the saint was supposed to have control. A young tree was split down through the trunk, care being taken not to sever the roots. A boy, whose name had to be John, passed the afflicted infant through the artificial opening in the tree, and a maid, whose name had to be Mary received it on the other side. During this ceremony the aid of St. John was invoked in a formal prayer. The child was passed three times, and in some places seven times, through the opening. The tree was then bound together, and, if the fissure united and became cicatrised, the cure of the hernia was assured and permanent.[2] A tree with a natural opening from the union of its limbs in growth above answered a like purpose, but could not always be found ; neither could it afford the omen of permanent cure. There seems to be a trace of the doctrine of sympathy in this relation of the ruptured infant to the ruptured tree. Another and more probable explanation is that it was symbolical of a new birth. The infant, who was always naked, was passed with some difficulty through the aperture, and by this second birth, with saintly accompaniments, came into the

[1] Another copy was sold at auction, 1903, in London, to Queritch for £12.

[2] A cleft ash-sapling was presented to the Folk-lore Society of London in 1896. This had been used for the cure of congenital hernia in 1894.

world whole and sound. Passing ruptured children through split trees is mentioned by White in his *Natural History of Selborne*. There is a striking analogy between this custom and a very ancient Aryan ceremonial. In India, the doctrine of the new birth, or regeneration of the body during life from its sins and weaknesses, is still entertained. In practising the rite connected with this belief, a large natural aperture in a rock is selected, and the patient is passed through it in a naked state with many ceremonies. The perforated rock is regarded as a sacred symbol of the Yoni.[1]

Saint John's Day is the Midsummer Day, which in classic times was noted for its pagan rites, many of which were engrafted in Christian observances, for example, in the *Johannisfeuer* of the Germans, mentioned in Goethe's Autobiography, and, even latterly, in Sudermann's remarkable play of that title.

The earliest Christian saint who was regarded as the patron of physicians was certainly Saint Luke. He is mentioned by Saint Paul as "Luke the beloved physician," and this is the only reference to his profession in the New Testament. The *Aurea Legenda*, compiled by Jacobus de Voragine, about 1270, was first printed in 1470. Caxton, the English printer, translated it into English, probably from a French version, and published it in 1483 under the title of *The Golden Legend*, or *Lives of the Saints*. In the life of the evangelist in this collection it is said: "Luke was of the nation of Syria, and Antiochian by art of medicine." This would imply the existence of a school of medicine in Antioch at an early period. Why Saint Luke was held to be the especial saint of the insane does not appear from any of his biographies. In art he is always represented with an ox looking over his shoulder or reposing near him. *The Golden Legend*, in accounting for this, gives a fanciful account of a "quadrate of beasts," containing in one

[1] Thomas Taylor, the Platonist, asserts that the doctrine of regeneration by the gradual triumph of the intellect over the senses, revealed only to the favoured few, is the key to the Eleusinian and Bacchic mysteries, and that this doctrine came originally from India. The symbolical rite just described was intended for the multitude, and not for those within the veil.

of its four corners the face of a man, next of a lion, next of an ox, and lastly of an eagle. The man symbolises Matthew, who wrote of Christ's humanity; the lion stands for Mark, who wrote of the resurrection. "For," says the chronicler, "as some say, the fawns of the lion be as they were dead unto the third day, but by the braying of the lion, they been raised at the third day." John is indicated by the eagle as soaring highest of the four, for he wrote of the divinity of Christ. Luke was figured by the ox. "For," says the writer, "it is a moral beast, and its cloven foot signifies discretion." I have met with other allusions to the ox as a type of morality. Perhaps his neutral condition and mild countenance contributed to this reputation.

The quadrate of beasts is taken from a passage in the Book of the Prophet Ezekiel, which refers to cherubim with four faces.

Professor Adolf Harnack, Professor of Ecclesiastical History at Berlin, published in 1892 a work of which the title (translated) is *Medical Matters in Earliest Church History*.[1] Speaking of Luke, he says that church tradition ascribes to him the gospel which bears his name and the Acts of the Apostles also. Both these books, he continues, have undoubtedly been written by a highly-cultured Greek. . . . It has even been asserted that the preface to the third gospel is formed after the pattern of the preface to the *Materia Medica* of Dioscorides. Professor Harnack quotes the passage, but the resemblance seems to me more fanciful than real. Eusebius in his *Church History* terms Luke "a scientific physician," and also states that he came from Antioch. In the sixth century a painting of the Madonna was discovered in Rome with the name Luke, in Greek, signed to it. With the easy credulity of the age, it was at once inferred that the evangelist, who was personally acquainted with the Virgin Mary, painted the portrait from life. In the Eastern Church, Luke is better known as the patron of painters than as a physician. A judicious little book on the Madonna of Saint Luke has been written by Mrs. Bolton,

[1] See also the same Author's recent work, *Lukas der Arzt*, Leipzig, 1906. Translated by J. R. Wilkinson as *Luke the Physician*, New York, 1907.

the wife of the late erudite bibliographer of chemistry, Dr. Carrington Bolton.

The Faculty of Medicine of the University of Lille, on July 6th, 1893, inaugurated a statue of Saint Luke. It was erected in the garden of the University, facing the building of the Faculty of Medicine. Saint Luke is represented as an old man with thick hair and long beard. In the right hand he holds a pen, and in the left a manuscript. The sculptor was Denonvilliers.[1]

Next to Saint Luke in point of time, but much more generally known as patron-saints of physicians, were the martyrs Cosmas and Damianus. The first is sometimes spoken of as Cosmos or Cosmo. They were the elder brothers of a family of five. The Acts which record their trial and martyrdom are still extant, and are considered to be authentic extracts from the proconsular records, though many miraculous incidents have been interpolated by succeeding writers. The five brothers were summoned before Lysias, the Governor of Ægis in Cilicia, in the reign of Diocletian. Cosmas and Damianus, in reply to the questions of the governor, stated that they were of Arabian origin, and were physicians. They declared also that they and their brothers were Christians. Refusing to worship the statues of the gods, they were tortured and finally beheaded. Their martyrdom took place about the year 297. In the year 530, Pope Felix IV built a church in Rome in their honour, and the remains of the five brothers were buried under the altar. Cosmas and Damian were the patron-saints of the famous ducal family of the Medici.

As late as 1700, the Vienna Medical Society celebrated the feast-day of these saints, September 27th. The ceremonial took place in the Stephanus Church. The Society has in its possession a copper-plate representing the saints as ministering to the sick. Imprints from this plate were distributed among the people on the occasion. The two saints are dressed in furred robes and caps, and have a striking appearance of authority. Hermann Peters, of Nuremburg, in his interesting work on ancient pharmacy, gives a copy of this engraving.

[1] *J. d. sc. méd. de Lille*, 1893, ii. 13, 44.

In a Spanish medical catalogue, published in 1900,[1] there is described an address delivered at the " festival dedicated by the physicians of Bilbao to their patrons, Saint Cosmo and Saint Damian." Bilbao, or Bilboa as we term it, is one of the most ancient cities of Spain, and it is interesting to know that this long-practised celebration is still kept up by its physicians. There is still existing in Barcelona a medical society known as the Academia de los Santos Cosme y Damian.

A remarkable bit of history is connected with the names of these patron-saints of physicians. Sir William Hamilton, the British Ambassador at Naples at the end of the eighteenth century, was a distinguished archæologist, though best remembered through his wife, the famous Lady Hamilton. In 1781 he wrote a letter to Sir Joseph Banks describing some strange phallic ceremonies which annually took place at Isernia, a very ancient town in the kingdom of Naples. A large procession took its way to the old church of Saints Cosmo and Damian, where the rites in question were celebrated. It is one of many instances of early Christian assimilation of pagan customs, and the ancient worship of Osiris or Bacchus was thus perpetuated with the substitution of a saint for a heathen god. How Saint Cosmo, whose authentic history exhibits a man of pure and noble life, became thus degraded it is impossible to say. The Governor of Isernia informed Sir William Hamilton that, in the three days' feast of 1781, over 1,400 flasks of Saint Cosmo's oil were bestowed on the worshippers. Anointing with this miraculous oil was performed by the priests for every kind of ailment, and the flask was presented to enable the sufferer to continue the treatment after leaving the shrine.

Another patron-saint of physicians deserves a passing notice. Saint Pantaleon was a native of Nicomedia, and, from his skill in medicine, was made physician to the Emperor Galerius Maximian. He suffered martyrdom in the year 305. Hecker speaks of fourteen saints to whom churches were dedicated

[1] Martinez Núñez (E. P. Zacarias), *La fe y las ciencias médicas. Discurso pronunciado en la fiesta dedicada por los médicos de Bilbao á sus patronos San Cosme y San Damián.* 1900.

SAINT ANTHONY.

O, holy and great St. Anthony!
Procure for us mercy without ceasing;
Remit the guilt: God's grace and favour
Guard us from thy grievous fire.

between Bamberg and Coburg, and to which thousands resorted annually in pilgrimages. Among them are Pantaleon, Vitus, Blasius and St. Margaretha. The latter was the "Juno Lucina" of pregnant women.

In view of the frequent invasions of Europe by the Oriental plague in the Middle Ages, and the frightful mortality consequent thereon, it is not surprising that the intercession of the saints should have been common on such occasions. Many of them are mentioned by hagiographers as having the dreaded disease under their charge, in particular, St. Sebastian. A notice of two must, however, suffice. Saint Roch, or Rochus, or Rocke,[1] as he is variously designated, seems to have been the saint to whom appeals were most generally made. There are no very authentic records of his life. He lived in the fourteenth century, and it is believed that he devoted himself to the care of the plague-stricken during the Black Death of 1348. When he himself was attacked with the disease he retired to a wood, patiently awaiting death. Miraculous care was taken of him, and a dog brought him daily a loaf of bread. An angel appeared to him in a dream and touched his thigh, meaning probably the groin; the plague-boil burst, and he recovered. In art he is represented with one thigh and leg bare, to which he points. Sometimes he is accompanied by a dog carrying a loaf of bread in his mouth. While there is much that must be

[1] The name of this saint has been spelt and pronounced in a puzzling variety of ways. It is mostly found as Roch, but sometimes with a final "e," which would imply the pronunciation of Roche. The learned antiquarian, Dr. Samuel Pegge, found him in old chronicles as St. Royke and St. Rooke, and says that there was an ancient festival known as Rock-Monday, held in celebration of the saint. From a like confusion of pronunciation, a proverb familiar to most of us, namely, "As sound as a roach," is quite nonsensical. The roach is a small soft fish such as boys angle for in brooks, and in old dictionaries it is spelt roch, without the "a." The original proverb, which is quite ancient, was no doubt "As sound as a rock." There is an analogous French proverb, "Aussi ferme qu'un roc," "as firm as a rock." Littré, in his *Dictionary*, has "Mal de S. Roch," which he defines as a disease to which the stone-cutters of Paris and Fontainebleau are subject from inhaling the silicious dust produced in their occupation. This is, of course, a mere punning title, but it confirms the pronunciation of Roch.

deemed apocryphal in the histories of these good men, their zeal and self-devotion in the care of the diseased has been generally the source of their reputation. Saint Roch is said to be in high repute among the French Canadians. His day is August 16th. There are many churches dedicated to him, and it was around the Church of Saint Roch in Paris that the last desperate rally of *sans-culottes* was made on the 13 Vendémiaire, year IV, otherwise October 5th, 1795. Carlyle, in picturesque phrase, tells how " the bronze artillery officer, by name Napoleon Bonaparte," sent a terrific " whiff of grapeshot " into their ranks, and " blew the French Revolution into space." The rabbets and plinths of the old church showed the marks of these historic volleys for many years.

Another saint, whose name is associated with the plague, lived several centuries before Saint Roch, and his good deeds are recorded in many authentic biographies, as well as in the Proconsular Acts. This was Saint Cyprian, the celebrated Bishop of Carthage. He lived in the third century. He was a man of noble character and of remarkable ability. His life was spared during the persecution under Decius, though he was banished from the city. Upon the death of that emperor he returned to Carthage. In the year 253 the plague devastated the city, spreading with appalling regularity from house to house. The streets were encumbered with the dead and dying, and none were brave enough to help. Cyprian divided the city into districts, over which he appointed superintendents. He called upon his fellow-Christians to aid him in the pious work, and thousands of them who had been released from slavery at the close of the persecution obeyed his call. It is pathetically related that numbers of those employed in these charitable duties were disfigured by frightful scars received in the prisons and mines to which they had been consigned. Under the bishop's vigorous management the pestilence slowly disappeared. In after times Saint Cyprian's aid was invoked in prayers during periods of similar visitations. Th good bishop's life was crowned with martyrdom, for when the Valerian persecution broke out in 258 he was condemned to death for refusing to worship the heathen

gods of Rome. It is told that as his white head fell before the executioner's sword, a universal groan burst forth from the vast multitude of spectators, pagans as well as Christians lamenting the loss of their benefactor. In art he is represented only in his episcopal robe and mitre. Saint Cyprian left many manuscripts, which have been preserved. Altogether, considering the early age in which he lived, he comes to us as an unusually authentic and satisfactory personage.

A bit of preventive medicine for horses was practised on Saint Stephen's Day. Barnabee Googe describes the proceeding with a touch of displeasure at the mingling of the name of the protomartyr with the veterinary art—

> "Then followeth Saint Stephen's Day, whereon doth every man
> His horses jaunt and course abrode, as swiftly as he can,
> Until they doo extreamely sweate, and then they let them blood;
> For this being done upon this day, they say doth do them good,
> And keepes them from all maladies and sicknesse through the yeare,
> As if that Stephen any time tooke charge of horses here."

Insanity was under the charge of many saints, both male and female. There was a certain Saint Dymphna who lived in the seventh century. Her father, an Irish or British king, was so enamoured of her beauty that she fled from him with an old priest named Gerebern, escaping to the Low Countries. The father overtook and slew them both. In the year 1200, a church in her honour was erected at Gheel, the present locality of the interesting colony of the insane. It was determined to build a shrine in commemoration of the martyrdom, and "for the healing of such mental disorders as may have come from base diseases." On Saint Dymphna's feast day, May 15th, 1900, the 1300th celebration of the foundation took place. There is, or was, a painting over the altar representing the saint in a cloud imploring the divine mercy for the lunatics who are grouped around her.

Among the many forms of brutal treatment of these unfortunates, one is mentioned by Dr. Arthur Mitchell in his interesting work on the superstitions in relation to lunacy in the Highlands and Islands of Scotland. There is a loch and islet dedicated to

Saint Maree, whose name is spelt in eight different ways. Insane persons were dragged through the waters of the loch by a rope fastened to the stern of a boat which was rowed around the islet. Dr. Mitchell says that the people firmly believe that it is impossible to drown an insane man "because his gall-bladder has burst." I may add that Sir Thomas Browne classes among his Vulgar Errors the popular belief that the bursting of the gall-bladder of a drowned man on the ninth day causes his body to float.

To Saint Fiacre was attributed the power of healing hemorrhoids, fistulas and ulcers of the rectum. He was the second son of a King of Scotland in the sixth century, but wandered to Normandy, where, at Brusiul, a monastery was afterwards erected by him. A stone which was the usual seat of the saint was believed to possess healing power for the afflicted, who were permitted to sit upon it. Henry V of England, the victor of Agincourt, is said in an old chronicle to have died of the *mal de fiacre*, which has been rendered "fistula" in modern histories. Considering his age, thirty-four, it seems probable that the common camp disease of hemorrhagic dysentery may have been the cause of his death. Old French dictionaries have "Fic-S. Fiacre," and define it as "an excrescence or inflamed scab in the fundament." Martial has endless references to this *ficus* or fig, which he attributes to the prevalent vice of pederasty. There is a less odious connection with this saint's name. The first carriages built for hire in Paris were kept in the Rue Saint-Antoine at an inn in front of which hung the head of Saint Fiacre as a sign, and his name was by degrees applied to the new vehicles, which were known as *fiacres*. The word is not much used now, but I can recollect the *fiacre* as the four-wheeled cab of my student days in Paris.

There is one more saint to be brought to your notice, and he merits especial attention. The Great Saint Anthony, as he is termed to distinguish him from other saints of the same name, belonged to an Egyptian family of distinction. He was born in Egypt in the year 251. His life was written by Saint Athanasius, who was his contemporary, and it is held to be a

veracious account. As usual, apocryphal stories have been foisted upon the original history. His interest to us lies in the strange disease which was known in the Middle Ages as Saint Anthony's fire. This became its most common appellation, though it was termed *ignis sacer* in the first chronicles which described it. There are over forty names in different languages by which this formidable disease is known, and Ehlers records that Saint Martial, Saint Benedict and Saint Genevieve were also regarded as its patron-saints. The literature concerning it is very extensive, and widely divergent opinions have been held as to its nature and cause. It has been thought that it was a malignant leprosy, an epidemic syphilis, such as in later years broke out at the siege of Naples, a virulent scarlatina, a herpes esthiomenus, a malignant form of scurvy, a gangrenous erysipelas, and, more generally, a dry gangrene, the result of ergotism.

According to Fuchs, there were twenty-eight epidemics of *feu sacrée* from 857 to 1547. The first reference to the disease appears to be in the Annals of the Convent of Xanten on the Rhine.[1] The first authentically described visitation was that of 945, recorded by contemporary chroniclers, Frodoart, Siegebert and Félibien, who saw the disease. They first termed it *ignis plaga, ignis sacer.* The latter name is found in Virgil, and was employed by Celsus, but it appears to have been a species of epizootic distemper, possibly anthrax. The mediæval disease was characterised by intense burning pains and by gangrene of the extremities, the latter becoming coal-black, and detaching themselves from the body, unless death first supervened. The disease had a slow progress. Numbers of persons were carried from great distances to the tomb of Saint Anthony in Vienne (Dauphiné). None of the authors who described the disease from actual observation confound it with the plague, or speak of inguinal buboes or danger of contagion.

Mézeray, the French historian, has confusedly described the *feu sacrée* the *mal des ardents* and the bubonic plague under

[1] "Annales Xantenses" (in *Pertz. Monumenta*, ii. 230).

the name of the *feu Saint-Antoine*, and Ozanam, Angelade and other epidemiologists have copied his statements.

The Commission of the Royal Academy of Medicine of Paris, who made their admirable report in 1776, carefully distinguished between the *feu sacrée* or St. Anthony's fire and the *mal des ardents* or plague. They distinctly show their belief that the former was the dry gangrene due to ergotism. The current statement that it was brought back from the Crusades is absurd. The first well-described epidemic occurred in 945, and the first Crusade was preached up a hundred and fifty years later. It was prevalent in years in which the winter had been rigorous, the summer moist and rainy ; years when the harvest was bad, years of dearth and famine. It never existed epidemically in years of abundance. As a rule the epidemic did not exceed one year in duration, unless the dearth extended through two years. All these conditions were favourable to the production of diseased bread grains. Ergot loses its poisonous qualities after a year.

It is to be remembered that in France, where the disease chiefly prevailed, the period comprised in the tenth and eleventh centuries was one of long feudal anarchy, of revolt of the great nobles, of incursions of the Normans, of the setting out of Crusades, which depopulated the country, and left the cultivation of the soil to women and old men, and of frequent interminable rains, which destroyed or diseased the crops. The terrible suffering of the peasantry during this period is vividly described by Mézeray.

He tells us that the bodies of the dead were dug up to serve as food for the living, children were carried off, and famished wretches, concealed in woods, sprang out on passing travellers and killed them for a like ghastly purpose. Well might the lines of an Elizabethan dramatist apply to this hopeless misery—

> " Devouring famine, plague, and war,
> Each able to undo mankind,
> Death's servile emissaries are ! "[1]

The disease broke out in Flanders in 1092, and was called *pestis igniaria* to distinguish it from the *pestis inguinaria*, or

[1] Shirley, *Masque of Cupid and Death.*

plague, and the similarity of nomenclature added to the confusion. When it reached England it was spoken of as Saint Anthony's fire. In one great epidemic in France, Mézeray states that 40,000 persons perished, often after a few hours' illness; that the disease attacked them in *les parties honteuses*, which, in other places, he specifies as the groin. This was evidently bubonic plague.

The latest writer on Saint Anthony's fire is Edvard Ehlers, of Copenhagen, whose work was published in Danish in 1895,[1] and in a French translation in 1902.[2] He is a learned and painstaking man, and the translation of his monograph into a more comfortable language than the Danish has made it the standard source of authority in recent works on the subject, such as the clever booklet *From Ergot to Ernutin*, published by Henry S. Wellcome in 1908. Ehlers has seen much of ergotism and raphania as it still exists in Sweden and Norway and some parts of Russia. Small epidemics, family epidemics as he terms them, still occur in those countries, and there were Russian outbreaks of formidable dimensions at Ekaterinoslav in 1881, Tomsk in 1883, and Poltava in 1888. In Livonia, where the grain is always cleaned and dried, ergotism is unknown. He quotes (from Boucher of Lille) the symptoms observed in an epidemic of 1749–50. The first stage lasted from twelve to twenty-one days. Intense pains were felt in the hands and feet, as if glowing iron was piercing them, and violent cramps attacked the muscles. In the second stage, lasting about ten days, there was torpor of the extremities with a sensation of intense cold. If the limbs were warmed, the fiery pains returned. The third stage, which was long and painful, was that of gangrene and separation. Ehlers is of opinion that some cases of acrodynia, Raynaud's disease and erythromelalgia, observed in Sweden, were due to ergot poisoning. He states also that in chronic ergotism a degeneration of the posterior columns of the spinal cord is found, similar to that which is observed in tabes dorsalis. As an example of the confusion produced by the use

[1] E. Ehlers, *Ignis sacer et Sancti Antonii*. Copenhagen, E. Bojesen, 1895.

[2] *L'ergotisme*. Paris, Masson et Cie, 1902.

of the name Saint Anthony's fire, may be mentioned the account given by Dr. Evaristo Garcia before the Anatomical Society of Paris in 1875. He states that there is a disease known in Colombia as the "Mal de Saint-Antoine." It is regarded as a form of leprosy, is of slow progress, is attended with anæsthesia of the extremities, atrophy of the muscles, fatty degeneration, and contraction of the tendons. Complete absorption of the bones of the hands and feet is a striking symptom of the disease. Charcot, he observes, described a similar absorption of the bones in locomotor ataxy. Garcia himself made an autopsy on a case in Bogotá, and exhibited a foot from it to the Society.

Space permits only the barest outline of the literature of this interesting subject, but I venture to suggest the following conclusions.

1. That the mediæval disease known as Saint Anthony's fire was caused by spurred grain.[1] It was mostly confined to the poorest classes, and occurred under meteorological conditions likely to produce the disease of the cereal crops. That extraordinarily severe burning pains in the extremities and entrails were among its first symptoms, and gave the disease its characteristic names of *feu sacrée*, hellish fire (*ignis infernalis*), etc. That livid coldness of the extremities, succeeded by dry gangrene, followed. That natural separation took place, and in many instances the sufferer recovered. Attempts to remove the gangrened limb artificially are said to have always resulted in death. Finally, that the disease in a much milder form exists to this day in Sweden, Norway, and especially in Russia, from the same cause.

2. That the *mal des ardents* or Persian fire was true bubonic plague. That it is described as attacking the private parts, meaning the groin, and producing buboes. That while often called *feu sacrée*, it has no resemblance to the dry gangrenous disease first described.

3. That Saint Anthony's fire was slow in its progress,

[1] This conclusion was reached as early as 1597 by the Medical Faculty of Marburg.

permitting patients to be carried great distances to shrines and hospitals, and could not have been malignant erysipelas. That a few epidemics have been described mostly in later times, namely in the sixteenth and seventeenth centuries, in which acute inflammation with rapid infiltration of the tissues and moist gangrene occurred, and that these were probably cases of malignant erysipelas. Ehlers mentions an epidemic of this kind which he thinks was properly called erysipelatous.

How Saint Anthony's name became applied to the disease in question is a matter of surmise only. He died six hundred years before the first outbreak occurred. His remains were removed from Constantinople to Dauphiné by the Seigneur de la Mothe-Saint-Didier in the year 1070, and it is probable from the high repute of the saint that his aid was early sought on all occasions. Helyot, in his history of religious orders, gives this account of the origin of the first hospital dedicated to Saint Anthony.[1] A gentleman of Dauphiné, Gaston de Vienne, attributed the recovery of his son from the *feu sacrée* to the fervent prayers addressed by him to Saint Anthony on the young man's behalf. He vowed to devote his future life to the relief of those afflicted with the disease. He founded a hospital at Vienne (Dauphiné) in 1092, which was formally recognised by Pope Urban II on June 28th, 1095. At the same time, the Pope established a religious order under the name of Antonists, or Brothers of Saint Anthony, with their chief seat at Vienne. It was not long before many *maladreries*, as they were termed, were established in various parts of France, Germany and Spain, and one was built in London. From allusions in Rabelais and other writers, it seems that the portals of these hospitals were painted red or of a flame-colour, to attract the eye, it may be supposed, of the stricken pilgrim. The walls of the hospital at Vienne were hung round with dry and blackened limbs which had fallen from the victims of the disease, some of which remained as late as 1702. One of these hospitals at Lyons was known as *Domus contractoria*, a significant reference to the contractions of the tendons, which was one of the most painful symptoms of the

[1] *Histoire des ordres religieux*, ii. 4.

disease. Saint Anthony's fire was sometimes termed *morbus spasmodicus*. Some two hundred years after the foundation of the first hospital, when the disease had greatly diminished, the Antonists were transferred to the rule of St. Augustine.

Dr. Salvatore De Renzi, of Naples, has given very particular accounts of epidemics of *ignis sacer* from the well-known one of 947 down to quite recent times. The title of his work, which was published in 1841, is: *Sul clavismo cangrenoso e sul morbo-convulsivo-epidemico*. The term *clavismus* is not, I believe, in any dictionary, and this is the only instance I have met with of its employment. It is derived from *clavus*, a nail or spike, and evidently refers to the shape and appearance of the ergot or spur on diseased rye. De Renzi's conclusions are that Saint Anthony's fire was the dry gangrene of ergotism, and the *mal des ardents* was bubonic plague.

In art Saint Anthony is represented as of a tall and stately figure. He bears a lofty staff with a cross-piece at the summit, forming the Egyptian cross, known as the *crux commissa*, and sometimes as the *tau* cross, from its resemblance to the Greek letter *tau*. The bells attached to it indicate a hermitage as the home of the saint. The hog which accompanies him has a bell tied round its neck or fastened to one ear. There is nothing said in the early life of Saint Anthony about this curious companion, but it constantly appears in his portraits.[1] "By the hog dear to Saint Anthony," was a popular oath in early English.

The accompanying photograph is reproduced from a plate in the *Feldtbuch der Wundartzney* of Hans von Gerssdorff, called Schylhans, published at Strassburg in 1517. The cripple on the knee-crutch has lost a foot, and is holding up his left hand to implore the aid of the saint. The hand is represented as in flames, symbolical of the disease.

[1] In Paul Heitz's curious *Pestblätter des XV Jahrhunderts* (folio, Strassburg, 1901) there is a representation of St. Anthony with his usual attendant hog, God the Father being visible in a cloud, and a pilgrim in the foreground on his knees, imploring the saint's intercession. On the wall alongside are hung legs and other limbs, as dried *ex votis*.

The legend around the picture, which is not reproduced in the photograph, is a prayer to this effect—

O, holy and great Saint Anthony!
Procure for us mercy without ceasing;
Remit the guilt! God's grace and favour
Guard us from thy grievous fire.

In the fourth edition of von Gerssdorff's work, issued in 1551, he appears to have become sceptical, for around the same engraving is a verse which may be translated thus—

O, Anthony, thou holy man,
To heal the sick why say thou can?
To God our Lord the honour 's due,
And not to man—not e'en to you!

The history of the *tau* cross before it became a Christian symbol deserves a brief notice. The Egyptian god Canopus was marked with a *tau*. A Buddhist cross is the *tau*, and it was carved on the bark of the sacred tree of the Druids. *Tau* is also the symbol of Thammuz, the Syrian or Phœnician name of Adonis. According to the classic story, the beautiful youth was permitted after his death to pass six months of the year on upper earth with Aphrodite, and, when the time came for his departure to the realms below, weeping and lamentation followed him, and the stream called by his name, on whose banks he encountered the boar, ran blood-red from Mount Lebanon to the sea. The Prophet Ezekiel speaks of "women weeping for Tammuz," as an idolatrous abomination,[1] and Milton has a noble passage relating to him.[2] Hard-headed persons, who reduce the most poetical myth to a symbolical lesson in cosmogony, assert that Adonis represents the generative power of Nature, his absence below indicating the winter season to be followed by the outburst of spring and summer on his return to earth. The blood-red stream too is only the flood tinge of the red clay banks. The *tau* in Bacchic rites was certainly symbolical of the generative power of Nature. With a ring at the top, it became the *crux ansata*, or handled cross, which may be seen in the hands of many gods in Lepsius's great work on Egypt. So ancient and strange a history has this device on the vestment of a Christian saint.

[1] *Ezekiel*, viii. 14. [2] *Paradise Lost*, i. 446–57.

THE PROBLEM OF MEDICAL EDUCATION.

The Presidential Address, delivered on October 9th, 1912, at the opening of the Thirty-ninth Session of the Bristol Medico-Chirurgical Society.

BY

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IT has been the rule that the President of this Society should commence his year of office by delivering to the members an address, which has usually dealt with some subject of a scientific or medical nature.

In addressing you on "Some Problems of Medical Education" it may appear that the subject is somewhat outside the purview of a Society such as this, whose chief object is the discussion of medical matters from their practical or scientific aspect.

I may, however, give as one reason that the Society is meeting in the buildings of the University of Bristol, of which many of the members of the Society are also members. Another reason lies in the historical fact that in England, at any rate, medical education has been carried on by the practitioners of medicine themselves without State aid, and with only such modest pecuniary endowments as the profession itself could supply.

The corporations (other than Universities) which deal with the licensing of medical practitioners, originated as Guilds, which in their inception were more concerned with the disciplinary regulation of practice than with either teaching or licensing. They undertook, as a later development, the duty of testing the knowledge of those who proposed to practise medicine. None of the English corporations have ever engaged in the teaching of students, although the lectures given at the London Colleges might seem to suggest that they have done so.

These lectures are really postgraduate in character. The Irish and Scottish Colleges of Surgeons, however, both teach and examine students.

The teaching of English medical students was carried out originally by apprenticeship to individual practitioners. Medical schools, except in the older Universities, arose almost invariably owing to the desire of those practitioners who happened to form the staff of a hospital, for the better instruction of their pupils in the scientific or academic side of the subject. Hence the close connection between the London hospitals and their schools, which have always formed an integral part of the former as far as the staff was concerned.

In London again, as also in Dublin, there flourished quite a respectable number of proprietary schools (such as Grainger's and Cooke's, the latter still exists) which had no connection whatever with hospitals, and were entirely the private ventures of individuals. In the provinces all the medical schools have become the medical faculties of modern Universities, although their origin was as a rule the same as that of the London schools.

Until quite recent years neither the medical faculties of the older Universities nor the medical schools, other than those closely connected with hospitals, ever exercised any control over clinical teaching, the existence and organisation of which is due to the fact that the honorary staff of the voluntary hospitals almost invariably obtained the privilege of taking their apprentices with them to see the practice of the hospital.

Even as late as my own student days some curious customs were preserved in the older hospitals in London which owed their origin to this. At Guy's in my time no one except a surgeon's dresser would be appointed house surgeon. In the times of my immediate predecessors (uncle and grandfather) no one except a surgeon's apprentice could become a dresser.

It is quite clear that with very few exceptions all the medical schools in Great Britain were originally proprietary. They concerned themselves entirely with the scientific teaching and practice of the preliminary and intermediate stages, and the academic side of the final stage of the medical curriculum.

Except in those London schools which were attached to hospitals, there was no control of, or any connection between, the teaching of clinical medicine and that of the academic and scientific sides of the subject. This control, however, does exist in some of the Scottisn Universities, and in the University of Dublin (owing to Sir Patrick Dun), and is coming into existence to some extent in some of the more modern Universities.

The proprietary character of English medical schools, whose teachers were paid simply by fees received from pupils, led, as the expense of the scientific side of medical teaching progressively increased, to the amount of fees received by the teachers being reduced to a minimum. It was soon found that in order that adequate instruction might be provided in the preliminary and intermediate sciences, it was essential that these should be taught by scientific experts, who could give time to the supervision of laboratories which a medical practitioner could not do.

The expense of laboratory accommodation for the teaching of the preliminary and intermediate sciences also became progressively greater.

The pecuniary difficulty is not by any means the most serious side of the matter. The question of the emoluments of the teachers is a comparatively small one in comparison with the effects which have necessarily been produced on medical education as a whole. As it gradually became evident that the expense of providing training (as opposed to teaching) in the preliminary sciences, more particularly in Physiology, was increasing, one medical school after another either handed over its medical faculty to the local University or University College, or ceased to teach in many cases the preliminary, and in some cases even the intermediate sciences.

Now the effect of this on the instruction of students in these sciences is by no means to be deplored. The training provided either in the science faculties of the Universities or in the surviving medical schools, strengthened as they are by the reception of students transferred from those which have ceased to teach these subjects themselves, is far superior to

that which can be afforded by a proprietary school under its original conditions and pecuniary disabilities. But this is the very thing which has led to some of the problems with reference to which I am addressing you.

The divorce between the preliminary and intermediate sciences and the study of the most important subject of the final stage, viz. Clinical Medicine, has been accentuated by this process of absorption and amalgamation. One problem which we have to face is the extent to which it is possible, without increasing the length of the curriculum, and thus adding to its already heavy expense, to adjust the time allotted to the different stages, so that while adequate attention can be given to the preliminary and intermediate sciences, sufficient time is left for clinical instruction and the study of Pathology and Bacteriology. One method by which this may be effected is by ceasing to provide teaching in the purely academic side of the final subjects, and thus allow more time to be devoted to clinical work and observation. This is being effected to a certain extent by the gradual diminution of the number of lectures the student is compelled to attend in each course.

The second alternative is to reduce to some extent the scope and intensity of the teaching in the sciences. It appears to be extremely difficult to do this by shortening the period allotted to them, and giving the time so saved to clinical instruction. Something, however, may be done by eliminating, to a certain extent, the system of water-tight compartments with its clear division between different stages, and introducing a certain amount of clinical study into, at any rate, the second and third years of the curriculum as at present arranged. This might easily be done if we could induce the teachers of the aforesaid scientific subjects to lay down courses which would not take up the whole time of the student. We cannot, however, hope for much from a move in this direction. It appears to be quite impossible to give that grounding in the laboratory work of these sciences, which is essential for the study of the more advanced subjects, if the time allotted to them is curtailed. If the student is to have

a correct understanding of the chemical processes and manipulative work involved in Physiology and Pathology, the proper use of the complicated instruments, and the carrying out of the complicated investigations required in the modern practice of clinical medicine and surgery, thorough laboratory training is absolutely necessary.

There is yet another possible solution to this problem, which is to carry the commencement of specialisation farther back and into the schools, the scientific basis on which the study and practice of medicine rest being laid before the student enters the medical school or the University. We are here faced with the same difficulty which has been already alluded to in the original proprietary position of the medical schools. Practically all the schools which provide a type of secondary education suitable for students of medicine are proprietary institutions, and unable to meet the expense of providing the necessary laboratories and teachers, even when endowed. Moreover there is the difficulty of inducing their governing bodies to see that there is any necessity for them to provide the necessary but expensive laboratories and experimental apparatus for the complete instruction of their scholars in these sciences. This is not altogether surprising when we consider that it is only comparatively recently that the Universities have begun to rise out of the rut of mid-Victorian ideas of instruction in science, which consisted mainly in giving set lectures illustrated with experiments, and in the endeavour, I quote Sir William Ramsay, " to teach pupils to know something instead of to do something."

If the schools made the same provision for the teaching of science as they do for the teaching of humanistic subjects there would be no difficulty whatever. In most High Schools the teaching of humanistic subjects is far above the standard of the freshman at a University, and as far as the humanities are concerned the connection between the school and the University is almost ideal. There is no valid reason that I can see why the same connection should not exist in science.

I have just sketched one difficulty which calls for removal

if possible, and have given you a brief indication of the methods by which this might be effected, but unfortunately the remedy is not in our hands.

The education of the medical student is complicated by another factor. Medicine is a profession which is partly technical and partly scientific. The present tendency is towards the continuous and relatively more rapid advance of the scientific side as compared with the technical, but let us not forget that the technical side also advances as experience accumulates. So far, however, the distribution of the periods allotted to different parts of the curriculum does not recognise that the time allotted to the technical side remains nominally the same as it was thirty years ago, and is actually reduced by the requirements of modern pathology. How this difficulty is to be met in the future it is impossible to see, since the demands of the scientific side will certainly not diminish, but rather increase.

Now follows another problem, which is to a certain extent political in nature. The advent of the Insurance Act and the introduction of medical benefits under it will inevitably lead to the separation of those following the profession of medicine into two grades—those who are to do contract practice, and the physicians, surgeons and specialists who do not. This separation, I may remind you, obtained up to the days of our grandfathers, one grade being that of the apothecary, and the other that of the physician.

It is obvious that the same training, although theoretically desirable for both grades, will become impossible as the scientific side of medicine increases in its extent and consequent demands on the student. The profession of medicine, on account of the expense involved on entering it, will be closed to those who would be satisfied with the rather exiguous income likely to be obtained under the contract system. The inevitable result will be, if this difficulty is to be met, that Government will have to intervene and provide funds which will allow of the entry to the profession of medicine of a large number of those who are at present precluded from doing so by the expense involved.

It is almost inconceivable that Government will do this on any such generous basis as will allow of the increasing demands of the scientific side of medicine receiving adequate attention, and the next step will be the elaboration of a less exacting and shorter curriculum to suit the future contract practitioners.

Another question arises here with regard to the later stages of the curriculum which may become very difficult in the not distant future, and in view of changes which may be produced as the result of recent political action.

Anything which tends to produce material alteration in the conditions under which hospital work is carried on may have, as a side issue, quite unforeseen results on medical education.

For example, the administration of maternity benefit under the Insurance Act, as at present worded, actually penalises the woman who is confined in a lying-in hospital, or attended as a patient of an out-door maternity charity. If this has the effect one would expect, we may look for an enormous rise in puerperal mortality in the future, first, because of the difficulties of instruction owing to lack of material, and, secondly, because while in lying-in hospitals the average septic mortality is 0.23 per cent. (Arnold Lea), the average septic mortality in England and Wales is 2.7 per cent., more than ten times as great. The patients will probably prefer the greater risk of being confined at home and receiving a cash bonus of 30s., although attended by a mortality of 2.7 per cent., to entering a hospital and sacrificing the cash, but with a risk of only 0.23 per cent.

Should the usefulness of general hospitals be impaired by financial loss, and their occupants reduced in number, the education of the medical student will suffer, and the population in the near future will have less efficient medical attendance. It may here be pointed out that the business of the English hospital, supported as it is by charity, is entirely the cure or relief of the sick poor, and not in addition, as in the State-supported hospitals of the continent, the provision of means for the instruction of those studying medicine. That our hospitals are great teaching centres is entirely due to the old system of

apprenticeship, and to the fact that the original members of their staffs, in practically all cases, agreed with the lay managers that in return for giving their services they should have the right of taking their apprentices to see the practice of the hospital, and to assist them in carrying it on.

It is to the old system of apprenticeship that English methods of clinical teaching (of which Flexner says they as nearly approach the ideal as is possible) are due. The close association between the teachers and their pupils, the common *esprit de corps* and *camaraderie* in what, in the large hospitals, is even called the " Firm," is an undoubted survival of the old close association between master and apprentice.

Whatever changes may be in store, let us hope that this relationship will survive, but I fear that should the continental system of State-provided hospitals be introduced into this country, judging by the results of State management of other educational institutions, we may expect the teaching of medicine to be swaddled in the bonds of red tape, and governed by a syllabus imposed by those who are either ignorant or whose knowledge is out of date.

The relation of Universities to medical teaching is another matter which presents a large field for speculation.

What should be the relation of a University to medical education ?

As regards the purely scientific and academic side of medical teaching there is no difficulty, since in all modern Universities this side is adequately provided for, in fact far better so than could be done by any proprietary school of medicine unattached to a University. When we come to consider further the relation between the University and medical teaching in the final stage of the curriculum, the position is by no means ideal. As things stand the University has no control whatever over the final part of the curriculum except in Pathology, and only in this case does the proper relation obtain if the University pathologist has in addition an appointment as pathologist in a local hospital. Any arrangement by which the University pathologist is excluded from the pathological department of the

local hospital is unsatisfactory in every way, as he becomes dependent for material on the goodwill of the hospital pathologist.

As regards the remaining subjects of the final part, viz. Clinical Medicine, Surgery, Obstetrics, etc., there is at present no definite connection between the University and the hospitals where this teaching is given. This, from an educational point of view, is an undesirable condition of things. Universities should be able to govern to some extent the teaching in clinical subjects of those students who are candidates for their own degrees. This at present they are unable to do, except as to the amount of clinical teaching which they can insist upon the condidates receiving before they can be allowed to enter for their final examination.

The ideal connection by which the University can govern to some extent the actual teaching is a very difficult thing to bring about, for one reason because the Universities as such have no control, and cannot have any control over the management of the charitable institutions in which alone this teaching can be given. Another reason is because the conditions under which students, University or otherwise, work in these institutions are based on the old apprenticeship system. It might be possible to arrange, by mutual consent, a scheme by which a certain amount of control should be given to the University over the teaching given in the local charities.

There is another point which should be considered here. To what extent should the University undertake instruction which is purely technical ?

A large part of the training of the medical student in the final stage of his curriculum is technical in essence, and it may be said that to give technical training pure and simple is not the business of the University. This, I think we must admit, is true to a very large extent, and this form of training, therefore, should remain in the hands of those who at present give it. It should be remembered, however, that in what may be called the purely technical side of medical teaching there arise certain well-defined scientific general principles, and in giving instruction

in these principles the University may certainly claim to be performing its true function.

The organisation of postgraduate instruction and research is unquestionably the proper function of the University, and with regard to this the University may advance a just claim.

As a concrete illustration of the idea I am endeavouring to put before you, I would make this suggestion, that the University should appoint, with the consent of the committees and staffs of the local hospital, teachers who should be responsible to it for the instruction of the students in the earliest stages of their clinical work, in order that they may receive a thorough grounding in the principles of Clinical Medicine, Surgery, etc. This stage completed, the student should be allowed to pass on to other teachers, not necessarily appointed by the University, for the purpose of obtaining practice in the application of clinical methods, the general principles of which he has already acquired at the hands of teachers appointed by the University.

In order that such a scheme might be carried out, it would be necessary that a certain number of the beds available in the hospitals should be allocated to teachers appointed by the University for the purpose of instruction. The number need not be large, an average of three or four beds per student in any given subject is quite sufficient, as the instruction given and the work demanded of the student should be so thorough as to practically engage the whole of his working day.

After the completion of this period he should be capable of dealing with a far larger number of patients accurately and systematically.

I should like to express my personal opinion, which you must take for what it is worth, that the ideal system lies in a thorough elementary grounding given by teachers appointed and paid by the Universities, followed by the more general lines of clinical practice at present obtaining, which having a systematic basis might be much extended without harm being done by over-diffusion.

The postgraduate teaching should be, for the most part, the care of the University, and research work should most certainly be organised, carried on and paid for by the University.

In my opinion the teaching of clinical medicine is a subject no less worthy of the attention of the University than is the teaching of Practical Chemistry, Physics and Zoology, the hospital taking the place of the laboratories of the three subjects mentioned.

Unfortunately, however, the enormous expense involved in maintaining hospitals prevents their provision for the purpose of acting as the laboratories of the departments of medicine of Universities.

You may, perhaps, be interested to hear that Sir Patrick Dun's bequest to the University of Dublin was for this very purpose, but was found quite inadequate to provide sufficient clinical material to make the scheme a success. Trinity College, however, still has certain important rights over Sir Patrick Dun's Hospital in Dublin, which practically give the University the control of a certain number of beds in the hospital.

As to the duties of the University in the organisation of postgraduate instruction there can, I think, be little doubt.

As regards Research in Clinical Medicine, the fact of the matter is that in a very large number of institutions research work cannot be carried on without the co-operation of University establishments on account of the expensive equipment necessary, and the further frequent, though not invariable, necessity of making use of experts in Biology, Chemistry, Physiology and Physics, and other purely scientific subjects.

As a concrete instance, I may say that I have lately found it necessary to make use of the organic chemist, the zoologist and the physiologist of the University for the purpose of checking and correcting certain investigations which were being carried on in my department at the Infirmary.

The co-ordination of the University and the charitable institution as regards research work is a necessity in order to avoid duplication of expense and labour, and to secure the

advantage that where medical research enters the domain of a pure science, it can be dealt with by experts in that science.

Should the University provide a medical course for other than those who are candidates for its own degrees? On theoretical grounds one would be inclined to say, "No, the University should concern itself with the education of its own graduands only." Practically, however, this attitude cannot be maintained, since the geographical distribution of schools of medicine is such that a large number of students would be absolutely excluded if the Universities adopted this attitude. The extent, however, to which a University school should cater or advertise for students who do not intend to take its degrees, and consequently do not intend to follow its curriculum whole-heartedly, should be very limited, and that such a course should be pursued at all is, in the opinion of many, very questionable.

In laying before you the different problems which I have touched upon in this address, I hope you will credit me with having endeavoured to avoid dogmatism. Any opinion which I have expressed as my own in the course of it, has been propounded more as a basis for argument than as a final expression. I hope that you will, each and all, give your advice and assistance to those of us on whom will fall the duty of endeavouring to co-ordinate the conflicting demands which the various subjects of medical education make upon the time of the student.

THE BARBER SURGEONS.

BY

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A CURIOUS order of Minor Surgeons was found in Europe in the Middle Ages, of which perhaps the last survivors are the Feldschers of Russia. Their importance in the history of

medicine, as possessing the chief medical organisation of the time, is greater than appears on the surface. They combined surgery with the art of the barber, and the combination once made survived through all vicissitudes down to the middle of the eighteenth century. The origin of the strange union has been sought by various writers in (1) certain customs of ancient Rome; (2) the work of lay servants attached to monasteries, since many of the monks were bled and shaven at regular intervals; (3) in the decree of the Council of Claremont, which forbad priests to act as surgeons; and (4) in societies of the keepers of public baths. It seems that a great fashion for baths arose during the leprosy epidemics in Europe, and reached its height during the thirteenth and fourteenth centuries. The bath-keepers, not content with shaving, dressing and perfuming their clients, treated fractures and dislocations, cupped and bled them, and did simple dentistry. These Barber Surgeons, according to Baas, appeared in Germany as early as 1150, and were for a time the only medical practitioners to be found. Baas notes, too, a curious survival of this union of the two professions in the custom of military surgeons shaving their men, which they continued to do down to the eighteenth century, while they are still called Feldscherers up to the present day in Germany. In France the surgeons were in theory separated from the barbers by a Statute of 1428, and indeed the highest class of them had abjured "barbery," and had been formed into the College of St. Como, under Pitard, as early as 1250. The order of Minor Surgeons, or men of the short robe, remained, however, to a late period. We must, however, pass over the details of their history on the continent.

In Great Britain we find them organized as Craft Guilds in most large towns before 1300, and, indeed, at the Inquisition of 1386, under Richard II, certain of them are returned as existing from unknown antiquity. Now these Livery Companies of Barber Surgeons, as they are termed in later times, are of interest for three reasons:—

(1) Their legal powers were so great, that not only Barber Surgeons, but every rank and kind of surgeon found it useful

to join them, and their history for some four centuries is practically that of all the surgeons in the country, though this was a period of great advance in surgery. In some places physicians joined the Company also, and in Edinburgh it at one time included apothecaries. A Company might thus be a Federation or union of all medical interests in its district, with ample powers to protect them. Sometimes the surgeons and barbers in a Company formed distinct groups of men, *e.g.* in London after the Act of 1540; sometimes the same individual was allowed to practise both arts. Some Companies contained additional crafts, such as chandlers in Chester, and as time went on, and when membership could be inherited as well as earned by apprenticeship, there were members who followed no craft. The result is to-day that in many Livery Companies not a single member carries on the original trade. In a few instances, Bristol being one, it is possible that the original guild did not at first include surgery at all; but the fashion changed, and in 1532, if not earlier, we find surgeons in the Bristol Company as elsewhere. However, by the middle of the eighteenth century the surgeons changed their minds once more, and insisted on leaving the Companies, and formed societies of their own. Of the old state of things there are few traces left, though the surgeons in Edinburgh, according to Gairdner, still pay a small sum annually to the Barbers, and in London the Barbers Company retains the hall with the paintings and records of the surgeons, while they have handed over to the latter the endowments of the Arris and Gale lectures. In Chester there was lately a single member left still of the Company, but I know of no other survivals, and the Colleges of London, Edinburgh and Dublin replace to some extent the old Companies.

(2) The whole of the surgical education of the country was carried on by them, partly through their system of apprenticeship, and partly through the lectures, examinations, and anatomical demonstrations which the best Companies instituted. The first treatise on anatomy in English, *The Englishman's Treasure*, was written by Vicary, a Master of the London Company. 1596.

(3) The right of granting licences to practise surgery, so far as their own towns were concerned, was entirely in their hands, and as the towns were in the habit of granting each other reciprocal rights, licences might be valid for most large towns. This power, after the Act of 1511, was limited by the right of the Bishop to grant licences over the whole of his diocese. The relation of these two licensing bodies is rather obscure, but on the whole they worked harmoniously together in putting down quacks and pretenders. In one town the power of the Company would be derived from a Royal Charter, in another from the Corporation of the town; but in either the power was amply sufficient to enforce their rules. Still, there was no central board or authority for the whole country, and probably there was great variety in the requirements of the different places.

If we ask what was the state of things in London, we find that a fraternity of consulting surgeons, like those of St. Como, had long been allied with the Company of Barber Surgeons, and finally a special Act of Parliament in 1540 united the two societies. This led to a very active educational body, and one which affected for good many of the provincial Companies. In the London body there was no difference in rank among the surgeons themselves, but they were quite separate from the barbers, though members of the same Company. Indeed, the statute forbade anyone to practise both arts. Whatever class of practice the surgeon aspired to the training was severe. Apprenticed for seven years, he had to attend lectures, anatomy teaching and examinations. After being " ploughed " more or less often like a modern student, he was licensed to practise by the Company, and perhaps by the Bishop as well. The Company insisted on his still attending frequent post-graduate lectures and demonstrations, and on his giving a lecture to his juniors in his turn. Hogarth has left a picture of a dissection in their theatre, and skilled members of the College of Physicians were often engaged as teachers of anatomy.

Four times a year a body was publicly dissected, and private

tutorial classes were formed in addition. On Tuesdays a lecture was generally given on surgery or anatomy.

In serious cases the young surgeon was compelled to get a consultation, and if he showed himself inefficient he was liable to be tried and punished.

In London itself the Act of 1540, and the charters of James I and Charles I, giving the power of licensing to the Company clearly followed after, and over-rode the Act of 1511, which made the Bishop the licenser, and it is claimed that the Bishop for a long period only licensed those whom the Company had examined, although the Vicar-General had expert examiners acting as his assessors. The rules of the Company were enforced by the city authorities, who allowed the qualified Barber Surgeon certain exemptions from civic duties in keeping watch and ward, just as we are now freed from serving on juries.

The story of the Barber Surgeons in other towns is varied and curious. As to the Company in York, I am indebted to Dr. G. A. Auden for abstracts of their records. As early as 1318 two Barber Surgeons were paid £6 by the York Corporation for going to heal David le Brus after his wound at Bamburgh. The Ordinances of the Company date from 1400, though they were expanded in 1485 and again in 1592. They were published under the editorship of Dr. Furnivall, but the text does not include the earliest rules or the other records of the Company.

Among various regulations we find that there was to be no trading on Sunday, except bleeding and giving medicines to the sick. Certain officials called Searchers were authorised to forbid the practice of surgery to aliens or new-comers, if after examination they were found incapable, and to this end the patients they treated were to be inspected. Practitioners of medicine as well as surgery appear to have been under the power of the Company. In 1555 they got the London Barber Surgeons to appoint two lecturers on anatomy for them. In 1614 it was agreed that a surgeon should be annually elected as Master in Anatomy to give lectures and two demonstrations a year, as well as to help the Searchers to teach the apprentices

at least every six weeks. Every surgeon in turn must give a lecture when called on. In the next year an unfortunate Mr. Francis Brigham "was found insufficient for surgerie," and forbidden by the Corporation of York to practise. The last entry in the Ordinances concerns the apprenticeship of a certain William Brotherton, and is dated in 1781, after which the Company fell into decay.

In Norwich, one of the cities where the return of 1388 described the Company as existing from times to which the memory of man goeth not, the earliest records refer to the religious duties and the altars maintained by the fraternity. Later on, like several other provincial guilds, we find them using the arms of the London Company. Does this mean that the Tudor Charters or the Act of 1540 gave the Londoners any powers over the local bodies, or united them so as to create a national surgical council, like the new College of Physicians? There does not seem any evidence for this view, though some common action may be found among their various licensing bodies.

However, at Norwich in 1561 certain Ordinances of the Physicians and Barber Surgeons declare the union of the existing Norwich guilds, and insist on consultation with an expert in difficult cases. Next, as to education they order that a lecture be given every three weeks. Finally, they seem to restrict practice to those who have served an apprenticeship in the city. As in other cities, the organisation in later days became unpopular, and no more officials were appointed after 1723.[1]

Dublin appears to have had a royal foundation of Barber Surgeons before any other town in the British Isles, for in 1446 Henry VI gave them a charter to "establish the art of chirurgery."

Elizabeth in 1572 issued a new one, in which she referred to her predecessor's gift, and joined to the existing Company another society of surgeons. The combined body was to be called "The Guild of St. Mary Magdalene of Barbers and Chirurgeons." For the next century a flood of political troubles

[1] Williams, *The Barber Surgeons of Norwich.*

and war disturbed the country, but in 1687 a new charter was granted, confirming the authority of the Company over surgeons, barbers, apothecaries, and peruke-makers, and ordering a seven years' apprenticeship. However, the surgical side of the work was a failure, the barbers outnumbered the surgeons by ten to one, and interfered with any reform proposed, so that no check on unskilled practice was possible. Not only did individual surgeons refuse to join or submit to the decaying Company, but in 1721 a new Society of Surgeons appears, who would not join or take over the Royal foundation.

A new Medical School had been formed in 1712, partly by the efforts of Trinity College, and in 1741 there were hardly any surgeons left in the Company, which appealed in vain to the College of Physicians to take them over with all their rights and powers. In 1745 the apothecaries seceded, and in 1784 the Royal College of Surgeons was created to take charge of surgical matters for the whole of Ireland. The old Company was finally dissolved by the Municipal Reform Act of 1840. Its records are now in the library of Trinity College, and include one or more of the Royal Charters. Lengthy extracts are given in Cameron's *History of the Royal College of Surgeons*, including the grant of a coat of arms, which recites "that the Company of Barber Chirurgeons of the Citty of Dublin have for some space used the arms of the Company of the Citty of London with some small difference, being a note of subordination [though having no dependence on any other citty], therefore a new coat is granted, viz. a chevron gules between three cinquefoils azure and a harpe crowned or."

In Edinburgh, too, a powerful Guild of Barber Surgeons had arisen at an early but unknown date, which was established and strengthened by Municipal and Royal Charters. Thus we find in "The seal of cause" granted by the Town Council of Edinburgh to the Crafts of Surgeons and Barbers in 1505,[1]

[1] "*A Collection of Royal Grants and other Documents Relative to the Constitution and Privileges of the Royal College of Surgeons of Edinburgh from* 1505 *to* 1813. I owe to Dr. James Young much of the story of the Edinburgh Company. Gairdner has also given many details in the *Edinburgh Medical Journal*, 1859 and 1860, but the chief records seem still to be unpublished.

and confirmed by a charter of King James IV in their favour a year later, various rules as to medical education and practice. There is one clause, however, which does not come under this head, but which, as showing the curious mixture of occupations at the time, is too interesting to be omitted. This clause lays down that " no person may make or sell *aqua vitæ* in this burgh except he be a freeman of this craft." How the Edinburgh surgeons lost this monopoly of the sale of whisky is a question I cannot answer. There would be no need of the Carnegie fund if the society had retained it to the present day. Among the other privileges, rules and statutes, it was granted that they should have " once a year one condemned man after he be dead to make anatomy of, wherethrough we may have experience each one to instruct others, and we shall do suffrage for his soul." Again, it was laid down that no person shall occupy or use any points in our said crafts within this burgh unless he be first freeman and burgess of the same, and that he be worthy and expert in all the points belonging to the said craft, having been diligently examined and admitted by the masters of the said craft. Especially he must be examined and tested in anatomy, in the nature and complexion of every member of man's body, and likewise in all the veins of the same. No barber of this burgh shall practise surgery unless he be expert, and know perfectly the things above written. No one shall be taken as apprentice or paid servant until he can read and write. The fine for admission as freeman was five pounds usual money of Scotland, which was employed for the support of the guild altar of St. Mungo. One legitimate son of every freeman was exempt from the payment of the fine, when after the usual examination he was admitted to the craft.

Exemption from bearing arms, serving on inquests and assizes (? juries), was granted to them by Queen Mary in 1567, provided that they paid their rates and gave medical aid to the armies in time of war.

The similarity between these rules and those of the English societies is at once apparent. Confirmation was given by a new charter in 1613, and finally by an Act of Parliament in 1641,

which gave their officers power to arrest and fine all persons practising surgery who were not members of the guild. To show that by surgery they did not mean merely blood-letting and tooth-drawing, another Act two years later defines it as "operations and applications upon the living and dead bodies of men, women and children, and the curing of diseases such as tumours, wounds, ulcers, luxations and fractures, the curing of verolls, etc." This Act also went on to lay down various penalties on any apothecary or other person who should carry out surgical treatment if not a member of the guild. A union of the apothecaries and surgeons was attempted rather later on, and then in the eighteenth century the usual break-up of the guild companies took place here as elsewhere, and the Royal College of Surgeons was founded by charter in 1778.

In Bristol the history of the Company is much the same, and the organisation in fashion in London and elsewhere at a given time was carefully copied here.

I have given many details in a paper in this *Journal* for September, 1911 ("Medical Organisation, etc., in the Seventeenth Century"), and I shall only refer to the chief facts here. The scantiness of the Bristol records is partly due to a fire which consumed the collection of Mr. Thomas Kerslake, bookseller, of Park Street, partly to the riots of 1833, and partly to the neglect into which the old guilds fell.

While a great advance in the organisation of Barber Surgeons took place in London, York, and Norwich, towards the end of the fourteenth century, their members being then probably increased by the field surgeons from the French wars, there is no evidence that in Bristol at that date the Company included surgeons at all. At any rate *The Little Red Book*, a collection of the Ordinances of the time, says nothing as to surgery or the teaching of anatomy, but regulates the barbers of the Company in 1395, 1418, and 1439. The Company is mentioned among those which were entitled to share the municipal feasts (28 Henry VI), and it generally took precedence as third among the 23 Livery Companies.

The inclusion of surgery or surgeons, if not original seems to

have been effected before 1532, for in August of that year one Thomas Rogers on receiving the freedom of the city is described as a Barber Surgeon.[1] Fresh Ordinances were granted from time to time, and when, in 1652, the existing ones had become partly illegible, the ancient "Company of Barbers and Chirurgians" once more obtained new ones from the City Council. A copy of this charter is in the possession of Mr. Francis Fox of Yate House, and gives a clear picture of their work. Thus apprenticeship for seven years was insisted on. No one might practise surgery unless (1) he had been passed by the Company as skilful in the art, and (2) he had been made free, *i.e.* a member of the Company. Heavy fines were incurred by neglect of a patient or malpractice, and a consultation was insisted upon in serious cases, or what we should term major operations. Surgical aid for the poor was to be provided gratis by the Company when necessary, and the surgeon's chest on any ship leaving the port was to be examined by the Company's officer.

The Bishop's Vicar-General in 1670 claimed that their licensees must take out his licence as well under the Act of 1511, but the City Council supported them so firmly that the Bishop's claim was at once dropped. As to other educational matters there is little information extant, for the minute books and most of the Ordinances are lost, and not a single document from 1450 to 1650—the period of the greatest activities of the Companies—has come down to us. However, it is clear there were rules penalising professional ignorance, and their Surgeons' Hall and Anatomical Theatre are still in existence. It is significant, too, that no sooner had the Company broken up, about 1742, than the Surgeons of the Royal Infirmary instituted lectures on anatomy, apparently to replace those of the Company, and these gradually led up to the Bristol Medical School.

In the eighteenth century a general dislike of the trade guilds grew up as devices in restraint of trade, and utterly opposed to the *laissez-faire* system. This view is most ably expressed by Adam Smith. Whatever the cause, the Bristol Company

[1] The Chamberlain's Accounts, Bristol.

like others fell quickly into decay. The better surgeons refused to take out its licence, though how they escaped prosecution is not clear. The surgeons' work, too, was largely engrossed by the apothecaries. Within the Company violent disputes between the Surgeons and the Barbers can be traced by their petitions to the City Council. In 1739 Isaac Page and 31 of the Barbers complained of "the other part of the Company called Surgeons." The master and wardens then appeal about these "uneasie members," and another petition in 1740 speaks of the great inconvenience of the present ordinances and prays for their revision.[1]

At the opening of the Exchange in 1742 the Surgeons' Company, as it was then called, for the last time joined in the mayor's procession, "marching with music." They had recently erected for themselves a fine new hall, a large part of which still remains as the Grapes Hotel and the Grotto Restaurant. But even the Barbers deserted the Company, and the disused hall had to be let. The few remaining members can be traced mortgaging it in 1750, and finally selling it to Matthew Wright in 1790, after which they disappeared altogether.[2]

In Glasgow, Newcastle-on-Tyne, Cork, Limerick, and probably many other ancient towns, there were similar other Companies, but no details are to hand with respect to them. In Oxford a Company was formed in 1348, and continued till as late as 1850, but no trace of one has been found at Cambridge.

In Chester the Company was created by the City Corporation, and ranked third on the list of the twenty-three guilds. A charter of 1540 refers to the seven years' apprenticeship, but the period seems really to have varied from four to twelve years. With the Barber Surgeons there was united in one Company a body of chandlers, a form of amalgamation which seems to have been popular in Chester, where the apothecaries

[1] Minute Books of the City Council, May 16th, 1739; March 22nd, 1740.

[2] Braikenridge Collection, All Saints' volume, p. 419. Haberfield gives the names and other details of these transactions.

The City Burgess Rolls contain names of all Barber Surgeons from 1598.

ironmongers, grocers, and mercers formed another guild. In Mr. Simpson's abstract of their rules there is nothing laid down as to consultations, medical education or examinations. Though the Company seems to have claimed relationship with the great London Society by using their arms, there is nothing to show that they imitated their zeal for the advance of surgery. However, the records are not published *in extenso*, and their good deeds may be hidden.

To sum up these local conditions. We find everywhere, after a certain date, that the government of various trades and professions was entrusted to certain craft guilds, and one of these guilds in most towns regulated surgical education and practice. Very often this guild contained barbers and surgeons, or individuals practising both arts ; sometimes it included other interests. After this system had lasted 300 or 400 years, economic changes, such as the introduction of the factory system, led to such general dislike of the guilds, that they became discredited and withered away. Among them the surgical guild societies perished in the first half of the eighteenth century, and were replaced in some instances by Royal Colleges, who took over the disciplinary and educational work of the Companies, and sometimes even their endowments. This involved to some extent the substitution of a national licensing body for numerous local ones, and so far it was a gain ; but how far the educational and disciplinary work they undertook is a success, and whether it satisfactorily replaces the work of the Companies in their palmy days, is another matter.

TUBERCULIN AND IMMUNITY.

BY

JOHN WM. TAYLOR, M.D.

IN the new Insurance Act tuberculosis, especially pulmonary tubercle, is a marked feature, and as the study of tuberculin treatment is prominently before the profession at the present

time, a brief consideration of some explanations of its action, as they strike a general practitioner, may prove of interest; but in this matter, and not only in questions of mere detail, medical men are by no means of one mind.

Let us first briefly consider some of the theories which underlie this application of vaccine therapy. It may be that there are still some practitioners who are not quite clear as to the difference between a "serum" and a "vaccine."[1]

Serum Treatment.—This form of treatment is most clearly illustrated and seen at its perfection in the case of diphtheria antitoxin, which is produced in the horse in response to injections of diphtheria toxin. It is accompanied by an increase of globulin content in the serum and diminution of the albumen content as the globulins rise.[2]

Later investigations have made it possible to concentrate the globulin content—containing the antitoxin—by precipitation, and to diminish the albumens in the antitoxic serum.[3]

On injecting the diphtheritic antitoxin the form of immunity produced is termed "passive immunity," as the tissues of the infected animal do not, themselves, form the antitoxin, which is introduced from without. It is maintained by some that the toxin, when neutralised by antitoxin, can stimulate the tissues of the infected animal to form antitoxin.

The antitoxin has no direct action upon the bacteria, although when the toxin they produce is neutralised, they tend to disappear.

The danger of serum disease (anaphylaxis) from repeated doses of serum, administered after a certain time, is the great drawback to all treatment by sera. This is due to the foreign albumen contained in the serum, and is not a part of its antitoxic character.

The effects of diphtheria antitoxin are well known, and its results in the treatment of diphtheria of the highest value, but unfortunately the value of antitoxin is mostly limited to diphtheria; with tuberculosis we are dealing with quite a different order of things. Diphtheria toxin is an extra-cellular or secretory poison; the poisons of tubercle, though possibly

in part secretory, are now generally believed to be of the nature of endotoxins or intra-cellular material.[4]

Vaccine Treatment. — Whether bacillary bodies contain protein material apart from their endotoxins has not yet been definitely proved. In all bacterial bodies after removal of toxins and endotoxins a certain protein residue is said by some to remain. The nature of this residue has been called by Buchner "bacterial protein." The nature of the bacterial proteins is by no means clear, and it is doubtful whether the separation of these substances from the endotoxins can be upheld.[5] It has been found that extracts from various dead bacteria possess ferment properties in excess of those manifested by the same organisms when living.[6]

T.A. (Tuberculin Koch) is protein material obtained from pure cultures of tubercle bacilli, with extractions from the bacillary bodies. T.R. consists for the most part of extracts from triturated bacillary bodies. T.O. prepared from culture fluid represent a germ-free filtrate of T.B. cultures in bouillon, containing exo-toxins only. Bacillary emulsion (B.E.) represents a certain quantity of triturated T.B. in 8 per cent. saline solution, the bacilli distributed by shaking and centrifugalisation, the supernatant fluid forming a very fine emulsion. A dose of tuberculin injected into a normal person, that is to say a person never having suffered from tuberculosis, usually produces no reaction: some few individuals give a reaction who are not tuberculous,[7] and in advanced cases of tuberculosis no reaction occurs. But if injected into an individual who is suffering from tuberculosis, or has in the past suffered, what is known as "a reaction" occurs. This reaction may be focal and general, or focal only, or general only.

To what is the reaction due? The generally accepted explanation is as follows: Tuberculin is a foreign albumen, and when a foreign albumen is introduced into the body tissues at the first no reaction occurs, but the formation of "lytic bodies" (hyper-sensitiveness) takes place.[8] These "lytic bodies" are ready to split up any further amounts of the specific foreign protein that may be introduced later; by such action the foreign

protein is made more toxic, and the reaction occurs. This explanation applies also to auto-inoculation phenomena.[9] Within favourable bounds the result of the reaction is limited to such an amount of increased tissue reaction around the focal lesions as may cause sufficient hyperæmia to carry increased amounts of antibodies in the serum and so favour healing; but in the production of the form of immunity aimed at in the treatment we are dealing with bacillary lysis—the breaking down of tubercle bacilli, and the liberation of endotoxins (tuberculin) in more or less unmeasureable amounts—the production of more tuberculin than very often is good for the patient, and added to any auto-inoculation that may already be in action.

In administering tuberculin, in whatever form, we are using a toxic compound, or what will become a toxic compound by lysis, in the hope that the reaction may be well within bounds, beyond which the possibilities of evil are limitless.

It appears then, from the first, that tuberculin treatment is not to be entered upon inadvisedly. What indications are there to mark the way? They are few and uncertain. The agglutination test is not entirely satisfactory. The fixation of complement test has often failed to be of any value. The opsonic test index is certainly the best, though laborious. The worst test of all is the production of reactions. Sahli is very emphatic in his statement that tuberculin dosage should be so regulated that as far as possible both focal and general reactions are avoided, and further, he says, "But I am absolutely opposed to diagnostic tuberculin injections." He decides that no definite conclusions can be drawn from either a negative or positive result, but apart from this he considers the risk sufficient argument for their rejection.[10]

Hyslop Thomson, in a recent work, suggests 0.1 cc. of either tuberculin diluted with a 30 per cent. solution of glycerine in water as an initial dose, and a rise of not less than 1° F. to be regarded as a diagnostic reaction. If no reaction, then after fourteen days 0.2 cc. If this fails further doses may be given

at intervals. It is commonly considered that these amounts are entirely unjustifiable.

The important point to bear in mind when considering the use of tuberculin in fairly large doses for diagnostic purposes is (1) the large percentage of persons in these latitudes who at one time or another have been tubercular. Nageli[12] and Burckhardt[13] have proved the presence of small tubercular foci in nearly every adult body, healed in ways which were not clinically perceptible. As it is almost impossible ever to say during life whether a lesion is absolutely cured or not—the finding of T.B. in sputum not always obtainable—the test of a large dose of tuberculin may, in many cases, light up a quiescent lesion and result in disaster.

Many cases discovered by skilful diagnostic methods may be doing very well, and to interfere by inoculations may be meddlesome and dangerous.

Several forms of *serum treatment* for tuberculosis have been put forward by various workers. It is probable that antitoxin is concerned in the cure of tuberculosis, but antitoxin has its chief use in diseased conditions caused by exotoxins; the general opinion now is that endotoxins are the poisons chiefly concerned in tubercle, and antitoxins for such toxins are formed in the tissues locally, and are not present in any large quantities in the serum, and so phylogenetically adapted to local defence. The question of histogenous immunity may have some bearing upon the question. It appears that the path of active immunity, though "a thorny" one, is the correct one to follow.

Spengler[14] produces what he calls a solution of the tuberculosis immune substances (Immune Korper) which he calls I.K., by inoculation, intra-muscular, of virulent cultures in rabbits. He also adds "pus exciters and other bacteria found in association with tubercle bacilli."[15]

After testing, the blood is collected in a vessel containing an acid-carbol-sodium-chloride solution. He considers the presence of lactic acid prevents anaphylaxis. He claims that the serum contains both lysins and antitoxins, that I.K. produces passive immunity, and, as a secondary action, active immunity;

the active immunising agents being formed in the patient's body by the action of the antitoxins upon the toxins, the toxophore groups being neutralised, these neutralised toxins possessing the power of stimulating the production of immune substances. Opinions are divided as to the efficacy of this form of treatment. Many authorities consider I.K. to be inert. Roepke concludes that the results obtained with I.K. treatment at Davos are due to Alpine climate only.

Some practical considerations.

Tuberculin used in apyretic and early cases is of value. Very careful recording of temperature per rectum is indispensable. All reactions should be studiously avoided—very small doses used in the first instance.

A mixed infection is a contra-indication.

The diagnostic use of tuberculin as an injection is dangerous.

The tuberculins of most value are those containing extracts of bacillary bodies. Sahli highly recommends tuberculin Beraneck, T.Bk.

Tuberculin possesses no direct healing power, and its application is different in principle from that of a true specific.

The presence of T.B. in the sputum is the only true and pathognomonic sign of pulmonary tuberculosis in the living.

A very large number of individuals possess cured tubercular lesions which have never caused recognisable clinical symptoms. Up to the present the only method of treatment attainable is that of active immunity, the all-important feature being the capability of the body tissues to react (power of resistance).

It appears that in many cases the use of tuberculin is unwarrantably in advance of the present state of knowledge of the problems of immunity.

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THE BRISTOL MEDICAL LIBRARY.

BY

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IN the *Journal* for December, 1911, there appeared an article from the pen of Mr. L. M. Griffiths on the history of the Library up to the year 1902. The present paper continues this subject, dealing with the growth and development of the Library during the past ten years.

This period has witnessed many important and critical changes in the constitution and general management of the Library, the principal of which are the outcome of a Report on the condition of the Library, drawn up by the Library Committee at the request of the Society and ratified by it in 1907. It was also accepted by the authorities of the University.

The preamble of the Report contains the following clause :—

> "The members of the sub-committee have endeavoured to make recommendations and suggestions, which, if carried out, will, in their opinion, make the Library more efficient and more worthy of so important a centre of medical education as Bristol ; but they have always borne in mind the original purposes of the Library ; and in proposing certain alterations which would necessitate

considerable change in its constitution, they have never lost sight of the intention of the founders, and of the work of those whose untiring zeal and energy have built up the present excellent Library."

In accordance with the recommendations of the Report, a most important change was made in 1908, in the management of the Library. The Committee, while fully recognising the importance of a Reference Library, and after studying the conditions existing in twenty of the Medical Libraries in Great Britain which all allow their books to circulate among the members, decided that our members should have the privilege of borrowing books under certain restrictions without any increase in their annual subscription.

To meet the requirements of members who wish to see the most recent books as soon as they are published, the Society has become a subscriber to Lewis's Library.

That this endeavour to increase the efficiency and usefulness of the Library has in some degree been successful, is shown by the number of members who have availed themselves of the privileges by taking out books, and it is hoped that in the future there will be a large increase both in the number of borrowers and of the books borrowed.

The past year marks an eventful epoch in the annals of the Library, for after an occupation of nearly twenty years of the handsome and comfortable Reading Room and Library in the Medical Wing of the University, in the spring of last year notice was served on the Society by the University that their tenancy of the Medical Library would expire in March, 1912, as it was required for a Council Chamber, and at the same time the agreement between them would terminate. For various reasons the Society elected to forego the twelve months' notice, vacating the old Library in the early summer of 1911.

A joint committee was then appointed, composed of representatives of the University and Library Committee, to seek for suitable premises to serve for a library. After much consultation, the east wing of the Blind Asylum was fixed on for this purpose, as being the only available building large enough to

accommodate the conjoint Library. This commodious building, after undergoing many necessary structural alterations and complete redecoration, to render it ready for the housing of our large and valuable collection of books and periodicals, was opened in October of last year for the use of members.

The Bristol Medical Library now occupies the east wing of the old Blind Asylum, which contains a suite of eight medium-sized and fairly-lighted rooms situated on two floors. On the ground floor is the Reading and Writing Room of the Medico-Chirurgical Society, a comfortable, well-lighted room; on the walls of which are portraits of the past presidents of the Society and other eminent local members of the profession.

The entrance hall, now known as the "Current Periodical Reading Room," is well lighted and roomy. Here are placed the current numbers of the extensive series of journals and periodicals received by the Library.

The principal Reading Room and Library is on the floor above. It is a small, well-lighted room, the bookshelves of which are filled with the books most in requisition and recent accessions.

A special feature in the recent re-arrangement of books in the new Library may here be mentioned. In view of the increased accommodation, it has been possible to devote two rooms almost entirely to bound periodical literature. One room, containing most of the foreign journals and magazines, is located on the ground floor; the other containing many complete sets of Transactions and other periodicals, mostly British, and is on the floor above. In this room are also found volumes in folio and quarto, and several valuable old medical works.

During the past ten years the growth and development of the Library in all departments has been well maintained, the number of volumes from all sources added during this period amounting to 5,947, the University contributing 2,010 volumes, and the Society 3,937. In estimating the growth of the conjoint libraries it is needful to take into consideration that 2,229 duplicate books have either been presented to other libraries or sold since 1902.

The members of the Society now have access to one of the largest and most up-to-date medical libraries out of London, containing over 22,000 volumes, with a list of 249 British and foreign periodicals.

At this stage of the history of the Medical Library, it is necessary to bear in mind what a most important part the *Journal* has played in building up and developing our valuable Library. It is not too much to say that the Library owes its very existence to the success of the *Journal*, and to those who in the past have raised it to such a high standard of literary efficiency. It now is the duty of the members of the Society to see to it that this standard is maintained, and that the circulation of the *Journal* is increased.

The *Journal* hands over to the Library of the Society all the books received for review. These, during the ten years from 1902 to 1912, reached a total of no less than 1,231 volumes, the value of which amounts to £346. The Library is also indebted to the *Journal* for the large number of Journals, 113, received in exchange. No further evidence is needed to demonstrate the substantial aid rendered to the Library by the *Journal*, and the active part it takes in its growth.

THE FOLLOWING SETS OF PERIODICALS HAVE BEEN ADDED OR COMPLETED SINCE 1902.

American Journal of Anatomy.
American Medicine.
Archives of the Middlesex Hospital.
Berliner klinische Wochenschrift.
Bulletin de la Société français de Dermatologie.
British Journal of Tuberculosis.
Canadian Medical Association Journal.
Dublin Hospital Reports.
Dublin Quarterly Journal of Medical Science.
Guy's Hospital Reports.
Journal of Experimental Physiology.
Journal of the American Medical Association.
Medical Review, The.
Philadelphia Medical Journal.
Progressive Medicine.
Proceedings of the Royal Society of Medicine.

Quarterly Journal of Medicine.
Reports of the Society for the Study of Children's Diseases.
Scottish Medical and Surgical Journal.
Transactions of the American Urological Society.
Virchow's Archiv.
West London Medical Journal.

THE FOLLOWING SETS ARE NEARLY COMPLETE.

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TABLE SHOWING THE GROWTH AND DEVELOPMENT OF BRISTOL MEDICAL LIBRARY.

1902 TO 1912.

		Oct.-Dec., 1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Books belonging to Society		..	10087	10068	10453	10627	10915	11002	11098	11390	11619	11974
,, ,, ,, University		..	7901	7852	7977	7804	7948	8445	8374	8477	8547	8645
,, ,, ,, Bristol Royal Infirmary		..	2622	1822	1822	1800	1800	1192	1189	1189	1189	1189
,, ,, ,, Bristol General Hospital .		..	1254	1022	1022	614	614	614	574	574	574	574
Books sold or given to other Libraries by	University	57	—	185	—	298	8	323	19	—	—	4
	Society	68	272	387	2	184	16	196	206	—	2	2
Books received for Review		..	126	119	97	118	126	101	108	130	75	120
Journals regularly subscribed for by	University	..	27	27	27	29	29	32	32	34	34	34
	Society	..	20	22	22	23	23	27	27	27	27	27
Journals received by exchange or gift by	University	..	20	20	21	19	25	25	25	25	25	25
	Society	..	169	167	156	160	160	160	165	163	163	163

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Progress of the Medical Sciences.

MEDICINE.

The X-rays in abdominal conditions. The responsibility for diagnosis in various abdominal conditions falls as often upon the physician as upon the surgeon, and consequently the recent discussion on the use of the X-rays in affections of the stomach and intestines at the French Surgical Association has considerable interest from a medical point of view. As regards **technique,** the general opinion was that carbonate of bismuth was safe and reliable; the sulphate of barium was also safe if chemically pure. Errors have arisen when the soluble sulphide was accidentally prescribed or dispensed. One speaker advocated oxide of zirconium, which, though only slightly opaque to the rays, can be given in very large quantities, as it is quite non-toxic. This substance (Z_nO_2) is insoluble except in hot concentrated sulphuric acid and hydrofluoric acid, which are not likely to be present in the stomach or intestines. According to Kaestle, it has greater absorptive power bulk for bulk than any other body, except thorium oxide, which is much more expensive. It is a tasteless fine white powder. The ordinary dose for stomach examination is two to three ounces. However, it costs 2s. 8d. an ounce, whereas bismuth oxychloride costs 10d., and pure precipitated barium sulphate 6d. Girard considers the lateral position of advantage in stomach examinations, and the Trendelenburg position for examination of the intestines.

Special points in **diagnosis** brought out by various speakers at the Congress were (*a*) elongation of the stomach occurs in cases of ptosis, owing to the fixation of the cardiac end and the partial fixation of the pylorus; the total length is sometimes as much as 30 c.m. (12 inches). (*b*) If the stomach is fixed by adhesions, the left side of the dome of the diaphragm

is drawn up. (*c*) X-rays are of value in localising intestinal stricture, and in showing the fixation of the flexures of the colon by adhesions, as a result of chronic epiploitis. Fæcal concretions and atony of the gut are, however, very liable to be mistaken for organic stricture, and repeated examinations are necessary for correct diagnosis.

In a paper on the **diagnosis of ulcer of the stomach and duodenum,** Schutz summarises his experience of the value of X-ray findings. In functional disturbances the appearance of hour-glass contraction is often seen, but in these cases the situation and shape of the narrowed portion varies. In ulcer they are more constant, and especially when the ulcer is near the pylorus there is delay in emptying the stomach. In normal stomachs with good muscular tone a little bismuth often remains after six hours, but if any quantity is left behind, and the shadow extends to the left of the middle line, a spastic condition of the pylorus may be assumed, which is almost always due to ulcer. Often, on the other hand, when there are clinical signs of retention of food in the stomach, nothing can be seen on the screen after six hours. In fact, in simple ulcer of the stomach the X-ray findings are mostly negative. Chronic ulcers, with thickened edges, usually situated on the lesser curvature, appear in the X-ray picture as small masses of bismuth, directly continuous with the stomach wall, which disappear as soon as the main mass passes out of the organ. A perforating ulcer, which has formed a more or less marked cavity in a neighbouring part, shows a mass placed outside the stomach, often containing a small bubble of gas, and not disappearing when the stomach has emptied itself.

As perforating ulcers are often situated on the posterior wall, they are best looked for by transverse illumination. The change which this form often undergoes into a malignant ulceration cannot well be diagnosed by the X-rays. In carcinoma of the pylorus the stomach often empties itself rapidly, and the organ appears elongated, so that the pylorus takes the lowest position. On the other hand, in non-malignant ulceration the stomach empties slowly, and the pylorus is often brought nearer to the lesser curvature by adhesions. Although it is often impossible to determine by X-ray pictures whether a true hour-glass contraction of the stomach is due to malignant disease or to an old ulceration, the following points are sometimes of use. In ulcer the narrowing is nearer the pylorus, in cancer it is more median. In ulcer the narrowed portion is not so long as in cancer, and both sacs are usually the same size, whereas in cancer the lower one is the smaller.

Baron and Bársony have undertaken a systematic description of the X-ray findings in duodenal affections. The

appearances investigated were (1) Drawing over of the stomach to the right which may involve the pyloric part only (pyloric dextro position), or the pyloric part and a portion of the upper segment of the stomach (total dextro position). (2) Hypertonus of the stomach. (3) Increased peristalsis, that is a rapid succession of peristaltic waves, which may divide the stomach into small round segments, when hypertrophy is present or into larger segments when it is absent. (4) The time occupied in emptying the stomach (5) Increased permeability of the pylorus. (6) More marked filling up of the duodenum. (7) The "nitch" symptom. (8) Circumscribed areas of increased sensitiveness to pressure localised by the X-ray shadow.

The authors come to the following conclusions. (1) The "nitch" symptom is the only certain sign of duodenal ulcer; it is that appearance already described as occurring in perforating gastric ulcer. In duodenal cases carcinomatous ulcers, simple ulcers and diverticula cannot by this means be differentiated. (2) Organic stenosis of the duodenum can be diagnosed with certainty if Holzknecht's syndrome is present, namely: the duodenum is distended above the stricture, and the distension persists on account of the ineffective peristalsis. Remains of the bismuth meal are seen above the stenosis, and the dilatation may extend to the stomach, especially if the stricture is high up. Spastic contractions produce the same effect, but if the condition is slight and localised to the site of the ulcer the appearances will be less marked, only a little bismuth will remain just above the contraction after six hours. There is, moreover, no dilatation of the duodenum and the shape of the stomach does not undergo changes. Incompetence of the pylorus is present in duodenal stenosis. Reversed peristalsis may be seen. (3) In stenosis compensated by hypertrophy the syndrome does not appear. (4) X-rays cannot show whether the stenosis is due to lesions in or outside the duodenum. (5) Slight degrees of stenosis in the vicinity of the pylorus present great difficulties of diagnosis. Simple ulcers without stenosis produce the same effects, namely complete filling of the duodenum above the lesion, increased permeability of the pylorus, and increased peristalsis of the stomach. If some bismuth remains in the stomach or duodenum after six hours, a spasmodic contraction of the latter owing to ulcer may be suspected. (6) The shape and time of emptying of the stomach may be normal even in extreme degrees of stenosis. (7) The "nitch" symptom is the only certain sign of non-stenotic lesions of the duodenum. In its absence, an hour-glass contraction of the stomach which has been proved to be spastic and not organic in origin may show either a single duodenal or a single gastric ulcer. In favour of the former are increased permeability of the pylorus, increased peristalsis confined to the lower segment

of the stomach, which is completely emptied in six hours, and a circumscribed point of tenderness corresponding to the projection of the duodenum. The reverse is true for gastric ulcer. Both, however, may be present at the same time, and then the X-ray picture may correspond to that of the duodenal lesion. The same picture without change in the shape of the stomach or duodenum makes a diagnosis of duodenal ulcer probable. (8) It is impossible to diagnose between ulceration of the pylorus and of the neighbouring parts of the stomach and duodenum in the absence of increased permeability and rapid peristalsis. (9) A high degree of duodenal stenosis causing dilatation of the stomach cannot be diagnosed. (10) In many cases of ulcer the X-ray picture is normal. (11) In cancerous achylia and cancerous infiltration of the pylorus, the pylorus may be more permeable than normal and the stomach apparently hypertrophied. Diagnosis is impossible when the characteristic duodenal signs are absent. (12) The greatest difficulty occurs in the differential diagnosis between duodenal lesions and those of the gall-bladder. Even the "nitch" may be produced in the latter. Operation may fail to make clear the primary lesion.

Kretschmer has investigated the effect of the **dietary treatment of constipation** by means of the X-rays. His first experiment was as follows. The patient was given barium sulphate made into a purée, and then fed for a day and a half on a bland diet, consisting of eggs, milk, gruels, white meat, soup, white bread and butter. Radiograms were taken at intervals of six, twenty and thirty hours after the barium sulphate had been given. His second experiment was similar, but the diet consisted of food calculated to stimulate peristalsis, namely cabbage and other fresh vegetables, fruit, jams, buttermilk and sour milk. The main differences in the position of the barium sulphate were seen during the first six hours, that is in the small intestine and first part of the colon. With stimulating diet the barium had reached a point in six hours which it took twenty hours to reach on bland diet. After thirty hours the difference was only very slight. The influence of diet, therefore, on chronic constipation seems to be limited to its effect in increasing peristalsis in the small intestine and the first part of the colon.

Direct **medication of the duodenum** by means of Einhorn's sound is the subject of a paper by Skaller. By means of X-ray demonstrations he shows that in order that the sound may enter the duodenum it is necessary that the patient should lie down, so that the weight of the capsule should not cause it to gravitate to the lowest point of the stomach. It is also necessary that the stomach should be quite empty. According to the patient's height and the degree of gastroptosis present (if any) 50 to 70

c.m. of the sound are swallowed, and after ten to fifteen minutes' interval another 20 c.m., the patient lying on the right side. The sound reaches the duodenum in about twenty-five minutes from the beginning. The process is quite painless. Skaller does not think the X-ray picture alone capable of demonstrating the presence of the capsule in the duodenum. It is often difficult or impossible to see it, and impregnating the tube with bismuth is of little aid. The X-rays are very useful, however, in conjunction with three other tests. The first of these consists in aspirating some of the contents of the viscus. In the duodenum they should be alkaline and bile stained. Sometimes, however, they may be neutral, and sometimes nothing can be withdrawn. At other times the duodenal contents may regurgitate into the empty stomach, and render the test unreliable. The second test consists of introducing air into the bowel. If the capsule is in the stomach the patient is aware of the introduction of the air, if it is in the duodenum he fails to feel anything. Percussion will confirm this. The third test consists in auscultating the abdomen while air is being introduced. The inrush of air is best heard to the left of the middle line if the capsule is in the stomach, and to the right if it is in the duodenum. Borborygmi can also be heard immediately in the latter case, but not in the former. If all these tests agree, the position of the capsule is certain.

J. M. FORTESCUE-BRICKDALE.

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[2] Kæstle, *München. Med. Wchnschr.*, 1909, lvi. 2576.
[3] Schütz, *Wein. Klin. Wchnschr.*, 1912, xxx. 1519.
[4] Baron and Bársony, *Ibid.*, p. 1521.
[5] Kretschmer, *München. Med. Wchnschr.*, 1912, lix. 2334.
[6] Skaller, *Berl. Klin. Wchnschr.*, 1912, xlix. 2131.

SURGERY.

The Surgery of the Vascular System, judging from the scarcity of records, has not made the same advance in this country as in those in which the development of its technique on animals is not hampered by so many legal restrictions.

Most of these notes on work on the suture of vessels are abstracted from contributions by Watts[1] and by Ehrenfried and Boothby,[2] to which reference may be made for the complete bibliography of recent work in this subject.

As far back as 1759 a record is found of the successful

[1] *Johns Hopkins Hosp. Bull.*, 1907, xviii. 153.
[2] *Ann. Surg.*, 1911, liv. 485.

closure of the brachial artery by Hallowell, who, at Lambert's suggestion, inserted a steel pin three-eighths of an inch in length through the edges of a longitudinal wound of that vessel, and round this, after the manner in which a hare-lip pin is used, wrapped a figure-of-eight suture. Nearly a hundred years later Wattmann applied with success lateral ligatures to wounded veins, and Eck, in 1877, experimenting on dogs for a way to relieve portal congestion clinically, on numerous occasions, anastomosed the vena cava and portal vein by a method almost identical with that used at the present day for lateral intestinal anastomosis, save that all sutures were placed before tying, and the vessels were divided at the last moment by a special form of scissors.

Ten years after these advances in the surgery of the blood-vessels, von Horoch made an unsuccessful attempt at end-to-end suture of an artery, owing to interference with its patency. The first successful end-to-end anastomosis of an artery, with fine silk, over a glass bobbin, was obtained in 1894 by Abbé of New York.

Queirolo and Masini, in 1895, elaborated a method in which the vessel was pushed through a glass tube of slightly larger calibre, its end cuffed back over this, and the other end of the divided vessel applied over this cuff and there tied.

Payr, four years after these experiments, and apparently without knowledge of their methods, used absorbable magnesium protheses in the same manner.

Murphy,[1] shortly after, experimented with considerable success by means of invagination and direct suture without any mechanical aid; and Jaboulay and Briau developed experimentally, anastomosis by interrupted suture, invaginating the intima, and by this means obtained specimens with intima intact at the site of union, and without thrombosis.

Jassinowsky placed simple suture on a sound basis, but it is to Carrel,[2] who in 1902 improved the methods of Jaboulay and Briau, that is due the modern method of circular suture, without a complete knowledge of which failure almost always follows attempts at end-to-end union.

In laceration of arterial trunks, where a considerable area of vessel wall is damaged, it has been found possible to excise this, and perform an end-to-end anastomosis, especially if the injury chance to be at the flexion point of the limb, and tension can be thus avoided after suture.

Numerous cases have now been reported of the clinical success of Carrel's method of end-to-end suture, and

[1] Murphy, "Resection of Arteries and Veins in Continuity—End-to-end Anastomosis," *Med. Rec.*, 1897, li. 73–88.

[2] Carrel and Guthrie, "Uni and Bituminal Venous Transplantation," *Surg. Gyn. and Obst.*, 1906, ii. 266–86.

satisfactory results have followed his attempt to transplant a piece of vein between the ends of an artery, a portion of which has been removed because of injury to its walls, and where an attempt at direct union would end in inevitable failure, from too much tension.

On Payr's previously-mentioned method of end-to-end arterial anastomosis, Crile[1] has developed direct transfusion. To Payr's protheses, which consist of metal tubes (of a diameter varying from 2 m.m. upwards and three-eighths of an inch in length, according to the size of the vessels to be utilised, and which have two grooves in which the vessels are tied) he added a small angular metal handle to facilitate its introduction.

The reported cases where this method of transfusion has been employed have shown a rapid rise in the blood count and the hæmoglobin content, together with the immediate disappearance of the ischæmic symptoms ; but on the other hand, normal blood transferred in some hæmic diseases appears to act as a hæmolysin, and the recipient's condition becomes worse.

Longitudinal or transverse wounds of arteries may be closed by through and through continuous sutures, after the method of Crile, for the union of completely divided vessels, but Dorrance[2] has devised a method which, while the suture traverses all the coats of the vessel, unlike Crile's it is not in contact with the blood stream. It can be applied to partially or completely divided vessels.

One might here mention that Brewer[3] has recently devised a method of closing longitudinal wounds in arteries by strips of adhesive plaster, made of zinc oxide spread on thin sheets of pure rubber sterilised by formaldehyde vapour. Experimentally the results were very good, but clinically this method was a failure, though it is still possible that with a more reliable material some use may be made of it as a support to sutured vessels, or to veins implanted between divided arteries.

Another direction in which the surgery of the vessels has progressed is in arterio-venous anastomosis, which has been utilised apparently with some success in severe injuries to limbs, with obliteration of the blood supply at the site of injury, and in thrombosis and embolism with threatened gangrene.

The method is by end-to-end suture as previously described of both ends of the vein to both ends of the artery, unless the vessels are of different calibre, when invagination of the smaller vessel into the lumen of the larger, followed by circular suture, is the method found to be most successful.

[1] Crile, "Direct Transfusion," *Ann. Surg.*, 1907, xlvi. 329.

[2] Dorrance, "New Method of Suture of Arteries," *Ann. Surg.*, 1906, xliv. 409.

[3] Brewer, *Ann. Surg.*, 1904, xl. 856.

The circulation is usually re-established in three hours by forcing of the venous valves, and a line of demarcation appears, in a previously spreading gangrene.

Lateral arterio-venous anastomosis is unsatisfactory, as most of the blood tends to go through the proximal end of the vein to the heart and not to the limb, but if the vessels are very different in calibre the smaller may be implanted into the side of the larger vessel.

Arteriotomy for traumatic thrombosis or embolism has been practised, and should find a place in vascular surgery, particularly for the latter condition.

Traumatic thrombosis usually due to rupture of the intima does not so readily lend itself to a favourable issue, as the thrombus tends rapidly to recur owing to the presence of a roughened or partially detached intima, and it is in such a condition that excision of the damaged portion and end-to-end union, or transplantation of a vein, may overcome the difficulty.

The treatment of embolism by arteriotomy appears more likely to be successful, for where we have an undamaged intima thrombosis is less likely to occur; but a difficulty arises as to the localisation of such emboli, for the severe pain present in such a condition apparently indicates rather the site at which the ischæmic process ends than that of the embolus.

Sabanajew, in 1896, failed to find an embolus at the site of the pain, and Stewart,[1] after opening the popliteal artery for a supposed embolus at that site found it in the femoral artery just below Poupart's ligament.

A matter of the greatest importance in the consideration of the amputation of limbs and the ligation of the great vessels for aneurysm, is the *ante operationem* determination of the efficiency or otherwise of the collateral circulation.

In children there is seldom any doubt of this, the elasticity of their circulatory powers being well known; but in adults, especially where senile sclerotic and thrombotic gangrene, aneurysm, or trauma of the vessels exists, a previous knowledge of the collateral circulation is all important in deciding the yes or no and the site of amputation.

With a view to estimating the extent and flexibility of a collateral circulation, Matas[2] has adopted the hyperæmic test of Moskowicz[3] to aneurismal conditions, and to prove the extent of viable tissue in senile arterio-sclerotic and thrombotic gangrene. His results have amply proved the efficiency of his method. The procedure is as follows: he found—after having exsanguinated a healthy limb by raising it and applying an Esmarch's bandage from its extremity to its root,

[1] Stewart, "Arteriotomy," *Ann. Surg.*, 1907, xlvi. 339.
[2] Matas, *Ann. Surg.*, 1911, liii. 1.
[3] Moskowicz, *Mitt a. d. Grenzgeb. d. Med. u. Chir.*, 1907, xvii. 216.

and having obliterated its main artery, at the top of the Esmarch, by applying to it a tourniquet which pressed on that artery only, leaving the rest of the circumference of the limb free, that on removing the Esmarch—the tourniquet remaining *in situ*—the collateral circulation quickly establishes a blood supply to the whole limb in from three to eight minutes, as manifested by a blush spreading to the extremity of the toes or fingers.

This method, applied to a limb with commencing gangrene, demarcates almost accurately the viable from the dead tissues, and indicates the line at which amputation may be safely undertaken without fear of the gangrenous process spreading to the flaps, and prevents the unnecessary sacrifice of parts which must undoubtedly have happened on many occasions in order to get well above the site of a possible spread of the ischæmic process, and the gangrene which follows in its footsteps.

In cases in which the application of this method proves the existence of an inefficient collateral circulation, Matas and Halsted have devised a means of developing such a collateral circulation, based on the work of Kokuri, Sargo and Tanaka, who, during the Russo-Japanese War, before ligaturing great vessels for aneurism, etc., developed the collateral circulation by systematic compression of the main trunk for days before the operation.

Both Matas[1] and Halsted, working independently, have by means of aluminium and silver bands, of the same breadth as the diameter of the vessel, exercised varying degrees of compression on large trunks for as much as three or four days together, without injury to the intima, with a view to developing the collateral circulation, and so avoiding the dire after-results. not unfrequently following on ligature of the carotid, or the main vessel of a limb.

One might here also mention Matas's well-known work on the treatment of aneurisms by endo-aneurysmorrhaphy, by which method 149 cases of aneurism were treated, with an occurrence of gangrene in five cases only.

A new method of dealing with varicose veins of the leg, in which Trendelenburg's sign is present, has been recorded by Gene and Hesse and Schaack.[2] The dilated and incompetent saphenous vein is implanted laterally into the femoral vein some four inches below the saphenous opening.

Above this site in the femoral vein, almost constantly, are present from two to four pairs of valves, which explains the treatment.

Up to the present forty-five cases of this end-to-side anastomosis have been reported, but an insufficient time has

[1] Matas, *J. Am. M. Ass.*, 1908, li. 1667.
[2] Hesse and Schaack, *Arch. f. klin. Chir.*, 1911, xcv. 381-428.

elapsed to prove the efficiency or otherwise of this method of dealing with varicose veins of the lower extremity, and, moreover, one death occurred amongst these from septic thrombosis and septicæmia, and to those inexperienced in such anastomoses the likelihood of failure owing to thrombosis appears to be considerable. Time only can prove whether this proceeding is justifiable and its results better than the often but temporary relief only, effected by the usual methods of dealing with this troublesome affection.

As Lane has said with respect to bone plating, it is not the casual aseptic methods of abdominal surgery that avail in the surgery of the vascular system; only a perfectly aseptic technique can succeed.

As a result of the improved methods, and with these, increased success in the surgery of the vessels, has arisen the successful transplantation of organs, homonymous transplantation of the kidney is an accomplished fact, and there is promise in the future of an ability to transplant entire limbs, partial successes in this direction having been already obtained.

C. FERRIER WALTERS.

Reviews of Books.

The Treatment of Tuberculosis by means of the Immune Substances (I.K.) Therapy. An Introduction to CARL SPENGLER'S work on Immunity. By WALTER H. FEARIS, M.D. Pp. xx, 206. London: John Murray. 1912. Price, 6s. net.

This small volume is an outline of that system of "vaccine" treatment now advocated by Spengler, of Davos, and we believe that it is a handy and eminently practical abridgment of a larger work that is to follow and contain the more complete data upon which this form of treatment is based.

The work of Spengler is less generally familiar in this country than it is on the continent. Perhaps the rapidity with which he has introduced new methods of treatment by inoculation, each claimed to be a great advance upon the previous great improvement, has done something to discount his work with us; but in fairness to him it must be frankly admitted that he makes no statement which he is unprepared to support with experimental or clinical data, and his output of valuable and brilliant research is colossal.

Soon after the discovery of tuberculin Spengler began to experiment with it, and during the days of its greatest

unpopularity he staunchly supported its claims. He introduced bovine tuberculin, and the alternating use of bovine and human tuberculin.

Spengler uses the term " vaccine " differently from our use of it. With us it means a suspension of bacteria, whereas he uses it to mean " the toxins which in a particular case cause little toxic-febrile reaction, although they induce marked local reaction and generation of immune substances," and these toxins are " derived from the non-predominant type of tubercle bacillus."

His preparation for the treatment of tuberculosis is made from the red blood-cells of an animal immunised by the use of a living culture of virulent tubercle bacilli, of the " Koch's brevis and the Humano-longus types," and also other bacteria frequently found in association with tubercle bacilli. It is called I.K., from the compound word " Immunkörper " (" immune bodies "). The chief immune bodies in I.K. are the bacteriolysins and antitoxins of tubercle bacilli, and of the complicating organisms most commonly associated with tuberculosis of the lungs. Hence two advantages over the use of tuberculin at once appear: firstly, that with I.K. a mixed infection is treated by the immune bodies of tubercle, and also of the various common organisms of a mixed infection; and secondly that the antitoxins contained *ready formed* in the I.K. are usually in sufficient quantity to neutralise the toxins liberated from the bacilli killed by the bacteriolysins of I.K., toxins so often liberated in a dangerously excessive amount when tuberculin is carelessly used, and sometimes even in spite of the greatest care in peculiarly sensitive patients.

Spengler states that should a strong reaction occur as the result of an inoculation of I.K., it is easily controlled by giving a far smaller dose. It would be a valuable help if it similarly control a reaction due to tuberculin.

It is claimed that the I.K. treatment is more effective and more rapid in producing its effect than tuberculin, that it is less dangerous than tuberculin, that it is the treatment best adapted for Sanatoria, and for the " domiciliary treatment " that is to be such a great factor in the tuberculosis campaign, and also that it is cheap.

Judging from past experience with tuberculin, there is a very real danger of this treatment being condemned solely because it will be used with a culpable disregard of the rules and directions that have been laid down for its use. I.K. treatment differs widely from the tuberculin treatment, and the directions for use by Spengler and others are set forth clearly in this little book, and no one should attempt this treatment who has not this book in his possession, or else has ready access to the German literature on Spengler's work.

Without attempting to express an opinion on the therapeutic value of I.K., we feel bound to say that Mr. Walter H. Fearis, in dealing with an intricate and complicated subject, has produced a book that is remarkably easy to read and clear to understand. Even those who have hardly glanced at recent work on immunity will find little difficulty in digesting this work, and those well versed in the practical use of tuberculin will gain a clearer understanding of the theories upon which their practice should be based, and will gain greater confidence in its use. Those who already are in possession of the original works and translations of Dr. Egbert Morland of Arosa, on the use of tuberculin, in our opinion the most generally useful and reliable books on that form of treatment, should add this volume to their bookshelves also.

In a book so well written, the book of a teacher, it seems a shame to draw attention to small faults ; but the author shows, here and there, some difficulty in translating German medical terms into their English equivalents, so that when one reads " Broncholoquy " it is impossible, unless one knows, to say whether it is something different from " Bronchophony," or a very questionable attempt at an improvement on the latter word ; and in using upper-case type on page 23 we should prefer " KOERNER " to the form " KORNER," for what would be in lower-case " Körner."

The type, paper, and especially the binding, are peculiarly pleasing and attractive.

Internal Secretion and the Ductless Glands. By SWALE VINCENT, M.D. Lond., D.Sc. Edin. With a Preface by Professor E. A. SCHAFER, F.R.S. Pp. 463. London : Edward Arnold. 1912. Price 12s. 6d.

This book in many respects supplies a real need. The amount of experimental work done in recent years on the ductless glands is enormous, and is brought forward at such a rate that it is almost impossible to keep up with it, especially as it is scattered through the journals of all nations. At the same time, the practitioner of medicine knows that the subject is one of pressing and increasing importance to him in his daily work, and one with which he must be thoroughly conversant if he is to do justice to his patients. He will therefore welcome this work from such an authority on the subject as Professor Swale Vincent, who himself has contributed so largely to our knowledge of the action of these glands. The book will be valuable as a reference handbook to the literature of this branch of medicine.

The introductory chapters on the definition and nature of internal secretions, and of hormones, and the critical account of the methods of investigation and the results obtained from

them, are clearly written, and of especial usefulness to those not familiar with the subject. In the remainder and chief bulk of the book each of the ductless glands has a separate chapter devoted to it, in which we note for especial mention the sections on the development and comparative anatomy of each organ, of their physiological activities and applications in the treatment of disease. The author is commendably careful in not rushing to hasty conclusions on insufficient data, and throughout prefers to leave a question in suspense where the facts so far obtained do not warrant a decisive opinion. He is thus a trustworthy guide. Although the amount of knowledge gained in the last few years as to the action of these glands is remarkable and, as Professor Schäfer observes in his Introduction, surpasses that of organs whose physiological action has been long known, yet one rises from the perusal of the book with a sense of how much more there is still to be learnt. Especially is this the case, perhaps, as regards the very interesting and important subject of the interaction of these glands upon one another in the normal economy of the body.

A useful summary of the positive knowledge so far gained concludes the section on each gland. We have only one or two small criticisms to make, and these are that those summaries might be still further extended, as the reader will be sometimes puzzled in selecting the grain from the chaff in the multitude of experiments, often with conflicting results, which are here presented to his notice; that there are a good many verbal errors, and that the writing sometimes shows marks of haste. In a work involving so much labour, these are minor defects and we cordially commend the book to our readers as one calling for careful perusal, and in which is collected together a mass of information not otherwise accessible. The illustrations are good, copious, and mostly original; they admirably elucidate the text. The extensive bibliography at the end of the book is well worth the trouble it must have involved, and there is that indispensable part of a work of this kind—a good index.

Traité International de Psychologie pathologique. Directeur: Dr. A. MARIE. Tome iii. Pp. viii, 1086. Paris: Félix Alcan. 1912. Price 25 fr.

This the third and last volume of the series opens with a chapter by Professor Bianchi dealing in general considerations of the physio-pathology of the sensorial sphere; the origin and evolution of sensation, perception, emotion and intelligence; association processes; morbid perversions of all and each of these; site and construction of hallucinations, etc. Siborski deals with the objective study of normal and morbid intellectual, emotional and volitional states; racial characteristics, changes

in organic functions, orders and disorders of speech and allied mechanisms; studies of subconcious states, of the ego; the relations between psychic and somatic conditions. There is detailed observation of physiognomy, gestures, pulse and respiration changes; attention and fatigue, association and disassociation and their correlative physical changes. Numerous illustrations drawn from celebrated pictures or sculpture exemplify the remarks on the physical expression of mental states. In succeeding chapters are considered the psychopathies of history, the psychoses of different countries and varieties due to special conditions are compared; collective or epidemic insanities, the psychology and morbid psychoses of animals, are studied also from comparative standpoint.

There is a very complete survey of the etiology of insanity, setting forth meteorological, social and particular physical influences in most elaborate detail. The final chapter is devoted to a description of laboratory methods of investigation.

This volume, like its predecessors, is exhaustively complete, and somewhat discursive. It is essentially a work of reference, and a reliable one. It epitomises all recognised continental views on the subjects treated. There is about the same recognition of English work as there is in English text-books, and one cannot, therefore, comment on any prejudice shown.

The Principles of Gynæcology. By W. Blair Bell, B.S., M.D. Pp. xxvii, 551. London: Longmans, Green & Co. 1910. Price 21s. net.

We have read this book with much enjoyment and profit. It is written in a clear and pleasant style, and the orderly and scientific arrangement of the subject-matter in chapters and sections, each of which stimulates interest in its successor, admirably helps to sustain the reader's interest.

Beginning with an account of the evolution of the female genital organs the author passes on to describe their development in the human female, and shows how the evolutionary history of the race is recapitulated in the development of the individual, and how a knowledge of evolution and development is an aid to the understanding of normal anatomy and of malformations. The next portion of the book deals with the normal anatomy and physiology of the parts, and then with congenital and acquired derangements of these normal conditions. Following this come a chapter on infective and parasitic diseases of the genital tract, three chapters on tumours—cysts, innocent growths, and malignant growths—and, lastly, a short account of general diseases or diseases of neighbouring parts in so far as they affect the pelvic organs. The book concludes with two good chapters on gynæcological surgery.

In two appendices are found a consideration of the subject of electro-therapeutics in relation to diseases of women and a classification of the causes of some of the most prominent symptoms met with in gynæcological work.

It will thus be seen that the usual anatomical arrangement of the subject has been somewhat widely departed from, and a more pathological method of compilation adopted. In the main this is good, especially in the case of infective diseases, the proper understanding of which is much facilitated by considering them as affections of the genital tract as a whole with a possible special incidence on some particular segment. So, too, in the matter of cysts and new growths it is of great assistance in obtaining a grasp of the subject to consider the reproductive organs as a whole, as for instance in the case of the various cysts which may arise from Wolffian relics. But while we think that the author's arrangement immensely increases the interest in reading the book, and is of the utmost value in enabling the reader to get a clear and thorough understanding of the subject, yet we are of opinion that a chapter summarising the conditions which may affect individual organs would be a help to the student in answering examination questions and also to the practitioner in diagnosis. For instance, there may be in a given patient a swelling which is found on examination to be connected with the tube, and in such a case it is helpful to be able to run rapidly over in the mind the various conditions which may produce enlargement of the tube. This is more easily done by the student if his text-book has been written on the anatomical basis, but the need might be equally met by means of a third appendix.

A feature of the book is the number and excellence of the illustrations. The microphotographs are particularly good, and are much to be preferred to drawings of sections made by hand, which always tend to be too diagrammatic. Another noteworthy point is the discussion of the indications for treatment in different conditions, for instance in uterine displacements. The different effects of the condition under consideration in different classes of patients are shown and plain rules for the practitioner's guidance deduced.

In his preface the author states that he has not attempted to give alternative views on disputed points, but has given the view which most commends itself to him. This makes very greatly for clearness, of course, and is therefore good, but there are certain cases in which we think alternative views should have been each clearly put, and the reasons for the choice of one given. One such case is that of "endometritis." There is nothing in gynæcology more confusing to the student than the conditions included under this designation. The author describes acute septic endometritis and gonorrhœal endometritis

in their appropriate sections; senile endometritis is very briefly referred to elsewhere; and the so-called "chronic endometritis" is dealt with under the heading of diffuse adenoma of the endometrium. In all this we are inclined to agree, but we think that, seeing that some authorities still use the term "chronic endometritis" for this adenomatous condition, and how very confusing the subject is to the student, it would have been well to gather up into one place all the conditions known as endometritis, to classify them and mention their points of difference, and show why some are really inflammatory and deserving of the name endometritis while others are not. This might be done, to avoid introducing ambiguities in the text, by means of a somewhat extended footnote.

The subject of chorion-epithelioma merits a somewhat longer account than is given to it in this book. Apart from the great interest of the condition, its pathology is obscure enough, as the history of its recognition shows, to demand a somewhat detailed account, if it is to be understood by one just commencing the study of gynæcology.

The descriptions of the operations of gynæcological surgery at the end of the book, only those operations being described which commend themselves to the author himself, are easy to follow, and the illustrations and explanatory diagrams are clear and helpful.

This book, in short, shows distinctive features enough to justify its existence, and seems to us to present the subject in a concise, scientific, and withal most interesting manner. For its scientific basis and the excellence of the pathological descriptions and plates we can heartily recommend it to the student, while the definitely expressed and reasoned recommendation of the author with regard to treatment cannot fail to be of great assistance to practitioners.

Text-Book for Nurses. By E. W. Hey Groves, M.S., F.R.C.S., and J. M. Fortescue-Brickdale, M.A., M.D. Pp. xxiv, 407. London: Oxford Medical Publications. 1912. Price, 12s. 6d. net.

It is always very difficult to know just how much information it is wise to give to nurses, nevertheless a helper who knows her work, and can take an intelligent interest in it is far more valuable than one who merely follows some rule of thumb, and the text-book under review is well calculated to train the best type of nurse. Although they have had to create their own precedents for the most part, the authors have displayed admirable judgment in deciding what to include and how much to say about it. They are singularly successful in putting their

teaching into such language as may be understood by those for whom they write, and this is a genuine triumph. Needless to say, their accounts of the various diseases are thoroughly reliable and up to date.

Some of the anatomical descriptions present an unfamiliar appearance, because the authors have seen fit to adopt the Basle nomenclature, and it will be a matter of opinion whether the time is ripe for this. The physiological section, though well written, is scarcely as up to date as the remainder of the book. The respiratory centre is said to be stirred into activity by vagus influence instead of by carbon dioxide in the blood (p. 91), the origin of leucocytes from bone-marrow is not mentioned (p. 83), and fats are said to be absorbed partly as an emulsion, whereas the modern teaching attributes supreme importance to the action of fat-splitting ferments. Proteins are said to pass through the intestinal wall as peptones, not as amino-acids. Purists in nomenclature as they are, the writers still call proteins by the old name of proteids. Several misprints (*e.g. renin, mucous*, p. 102) occur in this section.

The section on the preparation of a patient for an anæsthetic might be extended a little with advantage by mentioning the value of long warm stockings, and the usefulness of a split nightdress. It would be valuable also to describe the arrangement of a room in a private house. Although we do not personally object to the authors' permission to give a cup of tea two hours before an anæsthetic, we feel sure that nurses would get into trouble with many surgeons if they acted on this advice.

We suggest also that in future editions, which will undoubtedly be called for, the symptoms of overdosing with ordinary drugs should be given.

The illustrations are very numerous, admirably chosen, and (with a few exceptions, figs. 139, 184, 189) beautifully executed. They will add immensely to the teaching value of the book.

Children, their Care and Management. By E. M. Brockbank, M.D. Vict., F.R.C.P. Pp. xii, 259. London: Henry Frowde, and Hodder & Stoughton. 1912. Price 3s. 6d. net.—This is one of the best books on the care and management of children we have ever read. It is packed full of valuable information and advice on every point the newly-qualified practitioner is expected to know. The language used is simple, and admits of no misunderstanding as to the author's meaning. Every page bears the impress of experience and common sense. We feel sure the book will prove of use to a large circle of readers.

Editorial Notes.

Dr. Robert Fletcher.

THE death of Dr. Robert Fletcher deprives the Bristol Medical School and Royal Infirmary of their oldest student, and the world of medicine of its bibliographer-in-chief. By this sad circumstance a contribution by Dr. Fletcher to this *Journal* appears side by side with the intimation of his decease, while an appreciative article which his friend Sir William Osler had promised for publication in this issue has been changed by the melancholy event into an obituary notice.

Dr. Fletcher to the last was keenly interested in his native city and his old Medical School, now turned University. During the past summer he had his photograph specially taken so that he might present a copy to the Bristol Medico-Chirurgical Society, and no apologies are necessary for publishing the letters to the Secretary with which he accompanied the gift. The first letter was in response to a request that the Society might have a copy of his portrait to add to its collection.

June 22nd, 1912.

MY DEAR SIR,

Your courteous letter of 3rd inst. was duly received, and gave me much pleasure. I have delayed answering it, endeavouring to find a photograph of myself, which you have so kindly proposed to hang on the walls of the Society's rooms. I have not been successful in this, and I have desired a fresh photograph to be made, which I will send you as soon as received. I may add that some three of four years ago I received a gold medal of the Royal College of Surgeons of England in acknowledgment of the work done to which you refer.

I have always treasured my recollections of the Bristol Medical School and Infirmary with much pleasure and interest. I was articled to Surgeon Henry Clark for the usual five years, the last two of which I spent at the London Hospital, being a pupil of Surgeon James Luke, and of a physician on the medical side whose name I have forgotten.

I resigned my editorship of the *Index Medicus* because the work was mostly done at night, and in my advanced age I found it too trying for my sight. I still, however, retain my connection with the Library of the Surgeon-General's Office.

Thanking you again for your kind letter,

I remain,

Very truly yours,

ROBERT FLETCHER.

The second letter announces the dispatch of the portrait.

July 10th, 1912.

MY DEAR SIR,

The photographer has kept me waiting a long time for the promised copy of my likeness. It was sent off to-day by registered mail, and I hope will reach you uninjured. My friends consider it to be an excellent likeness.

Believe me to be,

Very sincerely yours,

ROBERT FLETCHER.

The third was written in answer to the acknowledgment of the safe arrival of the portrait. In this reply opportunity had been taken of congratulating Dr. Fletcher on the honorary degree of M.D. which had been offered him by the University of Bristol. This distinction was conferred upon him *in absentia* by the Chancellor of the University at his Installation on October 17th, and he appreciated the honour highly.

July 29th, 1912.

DEAR SIR,

Permit me to thank you for your letter of the 19th inst. I received the invitation from the University to be present at the Installation of the Chancellor, and to receive the honorary degree of M.D., but was obliged to announce the impossibility of my being present. It would give me very great pleasure to receive in person the degree from the University of my native city, but I fear to risk two ocean voyages in the autumn.

With kindest wishes, believe me to be,

Very truly yours,

ROBERT FLETCHER.

Of the magnitude of Dr. Fletcher's life-work, and its inestimable value in advancing medical science, Sir William Osler speaks elsewhere. Our task is to offer to Dr. Fletcher's family and relatives, both in America and England, our deepest sympathy with them in their loss, a loss in which we humbly claim to share, though not without a tinge of pride that our city and Medical School should have bred so fine an instance of what may be achieved " within the hour-glass of one man's life."

* * * * * *

Resignation of the Editor.

With the completion of Volume XXX. of this *Journal* the Editor resigns the pleasurable duty which he has had the honour to carry on for twenty-one years, since Mr. Greig Smith resigned it after the first nine years of the *Journal's* life.

The *Journal* Committee cannot be otherwise than gratified that their efforts have been so well supported, that the *Journal* has been an unqualified success, for it obviously has been a success, and not only in its literary capacity, but also from its very important work of building up and maintaining the Library.

The retiring Editor trusts that the *esprit de corps* which has always existed since its foundation may long be continued, and that the Committee may continue to have the whole-hearted support of the Society in the editorial work, which does honour to themselves and the University with which the Society is associated.

Notes on Preparations for the Sick.

"Tabloid" Hypodermic Ergamine 0·001 gm.—Burroughs, Wellcome & Co., London.—Ergamine is a recently-isolated active principle of Ergot. Its most important action is as a stimulant of plain muscle, this action being particularly conspicuous in the case of the uterus.

In rodents Ergamine causes a rise of blood pressure, but in carnivora and monkeys its exhibition gives rise to a fall of blood pressure.

The drug is indicated for use when prompt uterine contraction is desired. The dose advised is one milligramme, to be repeated with caution.

"Tabloid" Ophthalmic Physostigmine Salicylate, gr. 1/4000. "Tabloid" Ophthalmic Pilocarpine Nitrate, gr. 1/3000.—BURROUGHS, WELLCOME & Co., London.—Two new "Tabloid" ophthalmic products have been added to the list. These are Physostigmine Salicylate, gr. 1/4000, and Pilocarpine Nitrate, gr. 1/3000. They are intended for direct application to the eye without previous solution, and are suitable for use by patients themselves in place of eye drops, having the advance over the latter of ensuring accurate doses. One of the physostigmine salicylate products is approximately equivalent to one drop of a solution of gr. $\frac{1}{8}$ to the ounce, and one of the pilocarpine nitrate products to one drop of a gr. $\frac{1}{8}$ to the ounce solution.

"Tabloid" "Epinine" Compound.—BURROUGHS, WELLCOME & Co., London.—"Tabloid" "Epinine" Compound contains gr. 1/1000 of "Epinine" (the synthetic substance with adrenine-like action), in combination with suitable small doses of Heroin Hydrochloride, Ipecacuanha, Benzoic Acid and Oil of Gaultheria. It is intended to be sucked so as to secure the local application of these drugs to the mucous membranes of the throat. The product is made with a demulcent base, and dissolves slowly in the mouth, thus ensuring prolonged contact of the medicaments with the affected parts. The vaso-constrictor and astringent action of "Epinine" and the sedative, expectorant and antiseptic effects of the other constituents, make the product a very useful one for congested and irritated conditions of the pharynx and larynx. It should prove particularly valuable to singers and public speakers. The taste is agreeable, and the quantity of each ingredient is such as to allow of frequent repetition of the dose.

"Paroleine" Spray Compound.—BURROUGHS, WELLCOME & Co., London.—This Spray Compound contains suitable proportions of menthol, chlorbutol and "Eucalyptia" in a basis of "Paroleine," the whole forming an excellently designed preparation to be applied, as a spray, to the nose or throat. The combination is a well-tried one, and has been found exceedingly useful for its sedative, analgesic and antiseptic effects in catarrhal conditions of the respiratory tract generally.

Malt-Glidine (with Lecithin).—MENLEY & JAMES, London.—The analysis of this food in the dry form gives per cent. :—

Protein	37
Malted Carbohydrates	34
Natural Fats	18
Lecithin	6
Phosphates and other Salts ..	5
	100

A compound such as this should be of value as a nerve tonic in all debilitated conditions of the nervous and digestive systems, such as neurasthenia and wasting diseases generally. It should be a useful addition to the list of Glidine compounds previously noticed by us. It is quite palatable and inexpensive.

Atophan-Schering ($C_{16}H_{11}NO_2$).—A. & M. ZIMMERMANN, London.—Another anti-uric-acid drug, having the composition 2 Phenylchinolin + 4 Carbonic Acid, is said to increase the elimination of uric acid to two or four times the usual amount. In gout its effect surpasses that of the aceto-salicylic acid, it is more prompt in its action than colchicum, and it has no injurious effect on heart, stomach, or nerves. It is put up in tablet form, 6 to 8 for a daily dose. The tablets are prepared with cacao, but readily disintegrate in water. It is suggested that sodium bicarbonate in large doses may be given simultaneously,

Any new drug with properties so described must be welcome for the numerous cases of gout, neuralgia, and the various forms of muscular and articular rheumatism, which do not always yield to any one preparation. Excellent results are reported from many continental authorities, but it is advised that as the deposition of uric acid is so decided the drug should not be given in cases where stone is present in the urinary passages.

Cystopurin.—A. WULFING & Co., London.—This preparation is the outcome of long and careful research. Chemically, it is a double salt of Hexamethylene-tetramine and Sodium Acetate. When taken internally the Sodium Acetate is partially or wholly converted in the body into sodium carbonate, the result being that Cystopurin has the specific action of the Hexamethylene-tetramine on the urinary tract considerably fortified. It changes the constitution of the urine, and produces greater diuresis than its separate ingredients, or any other combination of them.

It is readily soluble in water, has a slight saline taste, and has proved itself to be most efficient in the treatment of bacterial conditions of the urine.

Each tablet contains one gramme, and the dose of two grammes thrice daily is adequate.

Milk-Chocolate Peptonised.—SAVORY & MOORE, London.—This is a dry preparation (for eating) of the well-known Peptonised Cocoa and Milk.

Its nutrient value is double that of the ordinary chocolate: its flavour is excellent, and it should be easy of digestion.

The Cocoa-Milk preparation has had a long run of popularity, and it continues to be one of the most nourishing and useful preparations for the sick. In the chocolate form its area of utility is likely to be extended to those who are not sick.

Codeonal.—KNOLL & Co., London.—Each tablet contains 2½ grains, which is equivalent to 2¼ grains of di-ethylbarbiturate of sodium and a ¼ grain of a similar salt of codeine. The combination is a chemical one, the codeine salt forming definite crystals readily soluble in water. The drug is a prompt hypnotic acting well in half-an-hour, and giving a sleep of six or seven hours' duration in cases where the insomnia is not due to severe pain or dyspnœa. It appeared to suit cases of phthisis with severe irritative cough.

Kaloof Compress.—HUDSON AND RICKETT, Tottenham, N.—A sterilised aseptic hot compress.

It consists of an asbestos envelope, to one side of which is attached a loofah pad, and to the other side a covering of non-conductible and impervious material. Its uses are as various as the hot fluids in which it may be immersed before being applied to the skin or wound, to which it forms an aseptic hot compress if sterilised by immersion in boiling water, or some boiling antiseptic solution. It may be continued and renewed indefinitely as long as required.

A variety of compresses for different purposes may be obtained, and it is suggested that Kaloof Gloves, Boots and Knee Compresses may replace localised hot air and radiant heat baths. The pads can also be utilised as post-operation dressings.

Neutrigen Tonic Food.—THE MEDICAL ENTERPRISE SOCIETY, Palace Chambers, Westminster, S.W.—Under this name a proteid food has recently been introduced to the medical profession.

The food is composed of casein, lecithin, and sodium

glycerophosphates, and, unlike so many preparations on the market, readily mixes with water to form a mucilage.

It should be specially noted that the article in question is not being advertised to the public, but is being introduced to medical men only. This, and its reasonable price, should commend it to those practitioners who are requiring a similar type of tonic food.

The Library of the Bristol Medico-Chirurgical Society.

The following donations have been received since the publication of the List in September:

November 30th, 1912.

E. W. Hey Groves (1) .. .. 1 volume.
The Middlesex Hospital (2) .. .. .. 1 ,,
P. A. Opie, M.B. (3) .. .. 1 ,,
Arthur B. Prowse, M.D. (4) .. .. .. 8 volumes.

Framed pictures have been presented by the late Dr. Robert Fletcher and Mr. L. M. Griffiths.

EIGHTY-SIXTH LIST OF BOOKS.

The titles of books mentioned in previous lists are not repeated.

The figures in brackets refer to the figures after the names of the donors, and show by whom the volumes were presented. The books to which no such figures are attached have either been bought from the Library Fund, or received through the *Journal*.

Adami and J. McCrea, J. G. *A Text-Book of Pathology* 1912
Anatomy (Catechism Series), Part I .. .. [N.D.]
Armstrong and J. M. Fortescue-Brickdale, H. G. *Manual of Infectious Diseases occurring in Schools* 1912
Bayly, H. W. .. *Clinical Pathology of Syphilis* 1912
Bedford, C. H. .. *Clinical Handbook of Urine Analysis* (4) 2nd Ed. 1904
Bennett, R. R. .. *Materia Medica and Pharmacy* .. 2nd Ed. 1912
Burghard, Sir W. W. Cheyne and F. F. *A Manual of Surgical Treatment.* New Edition. (Revised by T. P. Legg and A. Edmunds) .. Vol. III 1912
Bury, J. S. .. .. *Clinical Medicine* (Edited by J. S. Bury and A. Ramsbottom) .. .. 3rd Ed. 1912
Carter, A. H. .. *Elements of Practical Medicine* .. 10th Ed. 1912
Cheadle, W. B. .. *Rheumatic State in Childhood* .. .. (4) 1889

Cheyne and F. F. Burghard, Sir W. W. *A Manual of Surgical Treatment.* New Edition. (Revised by T. P. Legg and A. Edmunds) .. Vol. III 1912
Choyce, C. C. [Ed.] *A System of Surgery* .. .. .. Vol. II 1912
Collie, A. .. .. *Small-pox and its Diffusion* 1912
Craig, W. .. .. *Manual of Materia Medica* .. (4) 5th Ed. 1887
Creighton, C. .. *Bovine Tuberculosis in Man* .. .. .. (4) 1881
Emery, W. D'E. .. *Clinical Bacteriology and Hæmatology* 4th Ed. 1912
Fearis, W. H. .. *Treatment of Tuberculosis by Immune Substances* 1912
Fortescue-Brickdale, H. G. Armstrong and J. M. *Manual of Infectious Diseases occurring in Schools* .. 1912
Frazer, Elizabeth T. *A Manual of Immunity* 1912
Gabbett, P. C. .. *Manual for Women's Voluntary Aid Detachments* .. .. [N.D.]
Geddes, G. .. .. *Statistics of Puerperal Fever* 1912
Gibbon, I. G. .. *Medical Benefit in Germany and Denmark* .. 1912
Gibbs, J. H. .. *Extraction of Teeth* 1912
Gibson, G. A. .. *Life of Sir William Tennant Gairdner* 1912
Gros, A.-P. .. .. *Traitement de Maladies de l'Estomac* .. (3) 1898
Hawthorne, C. O. *Studies in Clinical Medicine* 1912
Hawthorne, C. O. *Forensic Medicine and Toxicology* 3rd Ed. 1912
Hewitt, Sir F. W. *Anæsthetics and their Administration* 4th Ed. 1912
Hollander, B. .. *The First Signs of Insanity* .. .. [1912]
Hutt, C. W. .. .. *Hygiene for Health Visitors* 1912
Kirkby, W. .. .. *Practical Prescribing and Dispensing* .. (4) 1904
Knopf, S. A. .. *Prophylaxis, and Treatment of Pulmonary Tuberculosis* .. .. (4) 1899
McCrae, J. G. Adami and J. *A Text-Book of Pathology* 1912
McKendrick, W. Robertson and A. *Public Health Law* 1912
McKenzie, D. .. *Diseases of the Nose, Throat and Ear* (4) 1908
Martindale and W. W. Westcott, W. H. *The Extra Pharmacopœia* 2 Vols. 15th Ed. 1912
Miles, C. H. .. .. *An Historical Outline of Ambulance* .. .. [1912]
Mitchell, S. W. .. *Some Recently discovered Letters of William Harvey* 1912
Operative Surgery (Catechism Series) Pt. 1 .. .. [N.D.]
Porter, W. G. .. *Diseases of the Nose, Throat and Ear* 1912
Pye, W. .. .. *Surgical Handicraft* (Edited by W. H. Clayton-Greene) .. .. 6th Ed. 1912
Rawling, L. B. .. *The Surgery of the Skull and Brain* 1912
Rice, A. G. .. .. *Medical Inspection of Schools* 1912
Robertson and A. McKendrick, W. *Public Health Law* 1912
Rolleston, H. D. .. *Diseases of the Liver, Gall-Bladder and Bile Ducts* 1912
Sawyer, Sir J. .. *Insomnia: its Causes and Treatment* 2nd Ed. 1912
Schlagintweit, F. .. *Nierentuberkulose* 1912
Schottelius, M. .. *Bacteria* (Tr. by H. Geoghegan) .. 2nd Ed. 1912

Secret Remedies, More 1912
Sequeira, J. H. .. *The Treatment of Ringworm* 1912
Stoddart, W. H. B. *Mind and its Disorders* .. .. .. 2nd Ed. 1912
Surgery (Catechism Series) .. .. Pts. III, IV [N.D.]
Vincent, R. .. .. *The Nutrition of the Infant* .. .. 4th Ed. 1913
Vincent, S. .. .. *Internal Secretions and the Ductless Glands* .. 1912
Westcott, W. H. Martindale and W. W. *The Extra Pharmacopœia* 2 Vols. 15th Ed. 1912
Whitby, C. J. .. *The Doctor and his Work* 1912
Woodwark, A. S... *Manual of Medicine* 1912
Yearsley, M. .. .. *Causes Leading to Educational Deafness in Children* 1912
Yeo, I. B. .. .. *Health Resorts* .. .. (4) 1882

TRANSACTIONS, REPORTS, JOURNALS, &c.

American Journal of Obstetrics, The .. .. Vol. LXV 1912
American Journal of the Medical Sciences, The .. Vol. CXLIII 1912
American Urological Society, Transactions of the .. Vol. VI 1912
Anuario Médico Sud-Americano 1912
Archives of the Middlesex Hospital .. .. .. (2) Vol. XXVII 1912
Archiv für klinische Chirurgie .. .. Vol. XCVII 1912
Boston Medical and Surgical Journal, The .. .. Vol. CLXVI 1912
British Medical Journal, The .. .. Vol. I for 1912
Clinical Journal, The .. .. Vol. XXXIX 1912
Congrès de l'Association internationale d'Urologie, Procès-Verbaux du 2me. 1912
Deutsche Zeitschrift für Chirurgie .. .. Vols. CXIII–CXVII 1912
Echo médical du Nord, L'. 1911
Edinburgh Medical Journal .. .. N.S., Vol. VIII 1912
Edinburgh Obstetrical Society, Transactions of the Vol. XXXVII 1912
Glasgow Medical Journal, The .. .. Vol. LXXVII 1912
Henry Phipps Institute, Sixth Annual Report of 1912
Hospitals—
Philadelphia Hospital Reports .. .. Vol. VIII 1911
St. Thomas's Hospital Reports .. .. Vol. XXXIX 1912
Jahreskurse für Arztliche Fortbildung .. .. (1) 1911
Journal of Experimental Medicine, The .. .. .. Vol. XV 1912
Journal of Medical Research, The .. .. Vol. XXVI 1912
Journal of Obstetrics and Gynæcology .. .. .. Vol. XXI 1912
Journal of the American Medical Association, The .. Vol. LVIII 1912
Lancet, The .. .. Vol. I for 1912
Library World, The .. .. Vol. XIV 1911–12
Medical Chronicle, The .. .. .. 4th Series, Vols. XXII, XXIII 1912
Medical Press and Circular, The .. .. Vols. CXLII, CXLIV 1911–12
Medical Record.. .. .. Vol. LXXXI 1912
Münchener medizinische Wochenschrift .. .. .. Bd. I für 1912
Nordiskt mediciniskt Archiv 1910

Philippine Journal of Science	Vol. VI	1911
Post Graduate The	Vols. XXV, XXVI	1910–11
Practitioner, The	Vol. LXXXVIII	1912
Progressive Medicine	Vol. II	1912
Revue de Chirurgie	Tom. XLV	1912
Revue hebdomadaire de Laryngologie	Tom. XXIII, Vol. I	1912
Royal Academy of Medicine in Ireland, Transactions of the	Vol. XXX	1912
Surgery, Gynecology and Obstetrics	Vol. XIV	1912
Zentrablatt für Chirurgie	Bd. I für	1912
Zentrablatt für Gynäkologie	Bd. I für	1912
Zentrablatt für innere Medizin	Bd. I für	1912

MEETINGS OF SOCIETIES.

Bristol Medico-Chirurgical Society.

Annual Meeting, October 9th, 1912.

After a vote of thanks to the retiring President, Mr. C. A. orton, had been passed, Dr. Walter Swayne took the chair, and gave an introductory address (*see* p. 316). Later a cordial vote of thanks was given to Dr. Swayne for his able and interesting address.

The Honorary Secretary, Dr. J. A. Nixon, read the following annual report :—

During the year three honorary and fifteen new members have been elected. We have to deplore the death of one member, Dr. Ambrose, and fifteen have resigned, leaving a total membership of 167 and four honorary members.

The balance from the previous year was £114 19s. 11d. From members' subscriptions the receipts were £179 11s. The expenses amounted to £219 14s.

The General Account has £77 11s. 2d. to its credit.

The meetings of the past session were interfered with to some extent by the removal of the Medical Library to the Old Blind Asylum Buildings, and the appropriation to other purposes of the room in which the Society used to meet. Now, however, we are comfortably settled.

A new agreement relative to the Medical Library has been made with the University, and the books have been placed in the new rooms allotted to this library.

The Hon. Librarian, Mr. C. K. Rudge, then read the following report :—

The Library of the Bristol Medico-Chirurgical Society now contains 11,974 volumes. During the year 375 volumes have been added to the Library. The Library is in receipt of 190 periodicals. During the year ninety members have availed themselves of the privilege of taking out books. The number of books borrowed is a third less than the number borrowed during the previous year.

The Society still subscribes to Lewis's Medical Library, and 49 books have been received from this source.

At the request of Professor Walker Hall certain books, illustrating the history of medicine and pathology, have been lent to the Pathological Museum, these books being changed every month.

The Bristol Medical Library, to which members of the Society have access, now contains 22,382 volumes and 249 current periodicals, made up in the following manner:—

BOOKS.

Medico-Chirurgical Society	11,974
University of Bristol	8,645
Bristol Royal Infirmary	1,189
Bristol General Hospital	574
Total	22,382

CURRENT PERIODICALS.

Medico-Chirurgical Society	190
University of Bristol	59
Total	249

Dr. SHINGLETON SMITH announced his intention of resigning the Editorship of the *Bristol Medico-Chirurgical Journal* at the end of the current year. Dr. Michell Clarke and Mr. Munro Smith expressed the great regret felt by the members of the Society on hearing of the above resignation, and showed how much the Society owed to Dr. Shingleton Smith for the untiring zeal with which he had worked to further the interests of the Society and its *Journal* since their formation in 1874 and 1882 respectively.

Dr. J. A. NIXON announced his resignation of the office of Honorary Secretary to the Society.

Mr. A. J. WRIGHT, M.B., B.S. Lond., F.R.C.S., was elected Honorary Secretary in the place of Dr. Nixon.

The following are the officers of the Society for the Session 1912–13: President—Walter C. Swayne, M.D., B.S. Lond., President-Elect—P. Watson-Williams, M.D. Lond. Committee (*ex-officio*)—C. A. Morton, F.R.C.S.; P. Watson-Williams, M.D. Lond. (Editor of *Journal*); C. K. Rudge, M.R.C.S. (Hon.

Librarian); J. A. Nixon, B.A., M.B. Cantab. (Editorial Secretary); A. J. Wright, M.B., B.S. Lond., F.R.C.S. (Hon. Secretary). (*Elected*)—R. Shingleton Smith, M.D. Lond., and J. Michell Clarke, M.A., M.D. Cantab. (Ex-Presidents); G. Parker, M.A., M.D. Cantab.; I. Walker Hall, M.D. Vict.; F. Lace, F.R.C.S.; J. Lacy Firth, M.D., M.S. Lond., F.R.C.S.; J. O. Symes, M.D. Lond.; L. E. V. Every-Clayton, M.D., B.S. Lond., F.R.C.S.

RECEIPT AND EXPENDITURE ACCOUNT OF THE BRISTOL MEDICO-CHIRURGICAL SOCIETY, SESSION 1911-12.

	£	s.	d.		£	s.	d.
Balance from 1911 ..	114	19	11	Honorarium and Stamps	11	0	0
Members' Subscriptions	179	11	0	Cheque Book	0	2	6
Paid to Bank on Benson's Cheque ..	0	4	0	Due from 1910–11 ..	0	19	3
Interest on Deposit Account	3	0	3	Mitchell & Co.	0	10	6
				Telephone Co.	7	10	0
				Stamps and Postage ..	2	0	0
				Weeks & Co...	0	10	6
				Library Grant	30	0	0
				Maggs	2	5	6
				F. Rudge	2	10	0
				Lantern	0	10	6
				Austen (University Marshal)	1	1	0
				Lantern	2	2	0
				Library Grant	50	0	0
				Mundy & Co.	0	6	0
				Postage	1	3	0
				To *Journal*	48	0	0
				Morgan	0	5	6
				Rent	52	0	0
				Printing	6	7	9
				Balance in Bank, Sept. 30th, 1912	77	11	2
				Due to Bank	0	10	0
	£297	15	2		£297	15	2

November 13th, 1912.

Dr. WALTER C. SWAYNE, President, in the Chair.

Mr. H. ELWIN HARRIS read notes, with comments, on a case of **Congenital Stenosis of the Pylorus.** An infant, soon after birth, began to vomit frequently. The motions at this time were green in colour. At the end of two months the weight was six pounds. In the second month treatment for pyloric stenosis had been begun. The stomach had been washed out daily with sodium sulphate solution, etc. The child remained emaciated, but without increase of emaciation during the third month, and to the middle of the fourth month, and then died suddenly. The speaker referred to the fact that the

presence of visible peristalsis is a late symptom in the affection. It might be missed altogether unless specially examined for about ten minutes after food had been taken. In the case related peristalsis had only been felt or seen on three or four occasions. A very thickened pylorus was found *post-mortem*. Reasons were given for regarding the case as one of congenital hypertrophy of the pylorus, and not one of mere spasm, or of spasm with secondary hypertrophy, and the case was considered to point to the advisability of operating if appropriate treatment did not result in improvement after a trial of two or three weeks, and before atrophy of the intestinal mucous membrane had set in.—Dr. C. C. LAVINGTON favoured operation for the relief of the affection, and thought pyloroplasty was probably the best operation. The mortality after gastro-enterostomy was greater.—Dr. STACK thought that many very typical cases had recovered under opium and lavage. He believed that many patients with the affection had curious vomiting and dyspepsia, and that the patients grew very slowly until they were five or six years of age, and after that showed no further symptoms. Diagnostic points were (1) the scanty amount of fæces passed from day to day; (2) the incidence of vomiting without ascertainable cause, *e.g.* in a healthy breast-fed child; and (3) the child often seemed happy and bright immediately after a good vomit. Sudden death was well known in starvation. If a child with the affection was going downhill, operation was indicated even before peristalsis or pyloric tumour could be detected.—Dr. F. H. EDGEWORTH said that statistics showed that four out of five cases recovered without operation. Surgical statistics were not so good. He was doubtful about the advisability of operation if equilibrium had been maintained for three weeks. If the diagnosis was certain, and an operation had to be done, then the sooner it was performed the better. He would expect no gain in weight for some months, and would not consider that occurrence an indication for operation. If vomiting came on three or four weeks after birth it was very suggestive of the affection, and he would treat with lavage and opium, though peristalsis and tumour could not be detected.—Dr. CAREY COOMBS had carefully sought for examples of vomiting in breast-fed infants a few weeks after birth in out-patient hospital practice, but had met with very few examples. He thought there was a discrepancy between the number of cases met with in Bristol and the relatively great number said to be seen at Great Ormond Street Hospital.

Dr. MICHELL CLARKE read notes on a case of **Pyocyaneus Septicæmia.** The patient was a boy of fifteen. The illness began about September 7th, and the patient died on October 3rd. Headache, vomiting and drowsiness were the

first symptoms, then muscular weakness and slight cough. Drowsiness increased, headache and photophobia became pronounced. After a fortnight the liver and spleen were enlarged and jaundice marked. Fever was high, and there was a cadaveric-like odour about the patient, probably a diagnostic feature in such cases. Signs of bronchitis were present. Lumbar puncture showed moderate pressure, and the fluid removed contained lymphocytes and epithelioid cells. Acute yellow atrophy of the liver was considered as a diagnosis. There was no leucin or tyrosin in the urine, but crystals of calcium carbonate were plentiful. The bacillus pyocyaneus was obtained from the blood by Dr. Scott-Williamson. At the *post-mortem* the right lung was found to be extensively consolidated, with several scattered abscesses at the base.—Dr. SCOTT-WILLIAMSON pointed out that the organism was not an uncommon one as a contamination in laboratory work. It was often found in fæces. He thought probably a mild pleurisy, with partial collapse of the lower lobes of the lungs, paved the way for the formation of small abscesses, and then infection with the bacillus pyocyaneus followed.—Dr. MUNRO said he had half a dozen experiences of pyocyaneus infection, but not as a pure infection. In two of the cases the infection was a complication of bowel ulceration. Infection with this organism perhaps responded better to vaccine therapy than any other.—Dr. NIXON mentioned a case of galactorrhœa, with eczema of the nipple and breast. A pure culture of the pyocyaneus bacillus was obtained from the milk. A vaccine quickly cured both the eczema and the galactorrhœa.—Dr. EDGEWORTH mentioned a case of ulcerative colitis he had had, in which the above-mentioned bacillus was present. The average temperature was 103°, and half a pint of pus was passed daily. The patient recovered with treatment by cyllin. The patient subsequently came into hospital again with similar trouble, and was a second time cured with cyllin.

Dr. J. O. SYMES read notes on the case of a boy who developed symptoms of **Rheumatic Arthritis at the age of 2 years,** and who was admitted to the General Hospital severely crippled two years later. The distinctive and unusual characteristics of the case were signs of great muscular wasting, together with true rheumatic nodules, and the presence in blood, spleen and glands of a diplococcus resembling the diplococcus rheumaticus. There were also signs pointing to a diagnosis of rheumatoid arthritis, such as fixation of the jaw, swelling of the knee-joints, irregular pyrexia, spondylitis, and enlargement of the lymphatic glands and spleen. Dr. Symes regarded the case as one of general rheumatic infection, illustrating the passage from acute rheumatic fever into rheumatoid arthritis (Still's disease).—Dr. CAREY COOMBS

discussed the relationship between cases such as the above and cases of acute rheumatism.—Dr. J. A. NIXON gave reasons for the opinion he had formed that the above case was an example of fibro-myositis.—Dr. DAVID A. ALEXANDER desired to raise the question of the therapeutical value of sulphur in rheumatoid disease, and especially in large doses. A woman had informed him that she had cured herself of an intractable form, a muscular and articular rheumatism, by taking sulphur and gin, and the quantities were remarkable—an ounce of sulphur to a noggin of gin (5 oz.) every other night: indeed, she took rather more, for she bought ¼ lb. of flowers of sulphur every week for seven weeks, taking in all 28 oz. He had that day seen another patient with osteo-arthritis, unrelieved, although every diagnostic and curative measure had been exhausted upon her—baths, thyroid extract, and an autogenous vaccine, which seemed to be indicated. If in this case he decided to try the sulphur, was he to withhold the gin? The waters of Harrogate might owe their potency to the sulphur they contained, because the aerated medium aided its diffusion and absorption; and the gin, a vaso-dilator and diuretic, may have also greatly furthered the influence of the sulphur. The large doses were followed by no ill-effects, not even by diarrhœa. It was an arsenical compound which brought about what betterment there was in Dr. Symes' patient, with arsenic sulphur was not unallied, and he thought that perhaps in an old woman's remedy he had a secret which would defeat the wisdom of the hospitals.—Dr. SYMES, in reply, fully agreed with Dr. Nixon that the most striking feature of the case was the muscular tenderness, wasting, and contraction, and that this was caused by a rheumatic fibro-myositis.

Dr. FORTESCUE-BRICKDALE read a paper on the **Occurrence and Treatment of Gastric Super-acidity.** Having criticised briefly the classification of functional gastric disturbances, he pointed out the great variations in total acidity and hydrochloric acid content in normal persons, and also in those suffering from conditions commonly considered to be associated with hyperchlorhydria. He considered that primary cases of this condition were a real but rapidly-diminishing group, and noted the occurrence of so called larval cases. He then discussed the relation of the hydrochloric acid to the symptom of pain, and criticised the explanations put forward to account for the latter. This was compared with the pain in organig lesions such as ulcer. He then reviewed the dietetic and druc treatment, and discussed the experimental and clinical basis for both.

J. LACY FIRTH.

A. J. WRIGHT, *Hon. Sec.*

Obituary Notices.

GEORGE CHRISTOPHER TAYLER, M.D. Lond., M.R.C.S. Eng., L.R.C.P. Lond.

WITH much regret we record the death of Dr. George Tayler, which took place on November 23rd, at Lovemead House, Trowbridge. On Wednesday he was at work, apparently in good health, on Thursday he was taken ill, and rapidly becoming worse, died early on Saturday morning.

Born in 1845, the son of Dr. Christopher Tayler, of Trowbridge, he studied at Bart.'s, and became a member of the Royal College of Surgeons and a Licentiate of the Royal College of Physicians in 1866. In the same year he graduated as Bachelor of Medicine, London University. He at once commenced practice in his native town, his brother, Dr. H. P. Tayler, of Bradford-on-Avon, joining him in practice some years later. More recently his sons, Christopher and Ernest, joined the partnership. In 1871 he took his degree of Doctor of Medicine.

For many years he was Medical Officer of Health to the town, and a district medical officer to the Trowbridge and Melksham Union, and till the day of his death Medical Officer for the third district of the Westbury and Whorwellsdown Union. He was from its earliest days a member of the staff of the local Cottage Hospital. When in 1903 the Trowbridge Division of the British Medical Association was formed, he was properly and naturally elected its first Chairman, and for the Session 1907–8 he was President of the Bath and Bristol Branch.

An active and enthusiastic volunteer, he retired not many years ago with the rank of Hon. Surgeon Lieut.-Colonel. A much-valued member of the congregation, he was churchwarden at St. Thomas's Church, where on November 27th the first part of his burial service took place, in the presence of a large congregation of mourners from the town and neighbourhood, including many members of the medical profession in Wiltshire.

Dr. Tayler was one of those human, well-learned and common-sense practitioners whom the profession and the public can alike ill spare, one whom it was a privilege to know; always genial, he had that simple, unassuming dignity that so well befits a doctor. Thoughtful, upright, untiring, unselfish, he was honoured and beloved by all who knew him. It has been said that after death a man's bad deeds are writ in brass, his

kindnesses in water. All who knew him will realise that in the record of George Christopher Tayler there will be no letters of brass, and those who were present at his burial must have felt that the tears of a multitude of friends and patients were burning into their hearts the memory of the untold k,indnesses of a lifetime, and engraving there a record that will not tarnish, whose influence will not perish.

JOSEPH FULLER, F.R.C.S. Ed.

THE large assembly at the Church of St. Mary, Portbury, on December 10th, at the burial of the deceased, who had resided and practised at Long Ashton for thirty-four years, showed how much Dr. Fuller was appreciated by his friends and patients. Qualified in 1876 at Trinity College, Dublin, he spent his whole professional life at Long Ashton, and won the esteem of all classes in the district. He held many public offices, and was Vice-Chairman of the Parish Council. He was a keen volunteer, and lately held the rank of Surgeon-Major (V.D.), Wessex Division, R.E. Territorial Force.

Like most of his fellow-countrymen, he was fond of the horse, and won many prizes at the local Agricultural Society, of which he was Vice-President. He took great interest in public health questions, was a Fellow of the Royal Institute, and was Medical Officer of Health for the district, as well as District Medical Officer for Long Ashton and Barrow Gurney since the year 1879.

Both in his professional duty and in his public life he was a man of great capacity, who served his generation well, and left his parish much better than he found it. He will be long remembered and mourned by all with whom he was associated, who regret that at the comparatively early age of 58 his life's work should have terminated.

Local Medical Notes.

UNIVERSITY OF BRISTOL.

Students of the University have been successful in the following examinations :—

D.P.H. BRISTOL.—W. Pomeroy.

CONJOINT BOARD OF ENGLAND.—*Chemistry :* J. H. Eglinton. *Physics :* E. Butler. *Medicine :* L. Page. *Surgery :* G. S. Applegate. *Midwifery :* C. Kingston, W. E. Neale.

L.D.S., R.C.S. ENG.—*Final Examination* (*Part I*): K. Batten, R. H. Basker. *Part II*: P. L. Ealand, J. W. Gilbert. *Mechanical Dentistry*: F. K. Hayman, E. W. Thomas, A. H. Virgin. *Dental Metallurgy*: A. H. Virgin, Marjorie J. White.

Medical School Dinner.—This function took place on November 21st, when Dr. Devis presided. Sir John Bland-Sutton was the Guest of the Evening.

An almost record number sat down to dinner, and later in the evening Dr. Devis, one of the Bristol representatives, gave an account of what took place at the recent Special Representative Meeting.

APPOINTMENTS.

Bristol Royal Infirmary.—The following appointments have recently been made:—*Senior Resident Officer*: S. H. Kingston, M.B., Ch.B. *House Physician*: R. C. Clarke, M.B., Ch.B. *House Surgeon*: H. W. Goodden, M.B., Ch.B. *House Surgeon to Ear, Nose and Throat Department*: J. P. I. Harty, F.R.C.S., M.B., B.Ch.

Bristol General Hospital.—The following appointments have recently been made:—*Senior Resident Officer*: D. Wood, F.R.C.S. *House Surgeon*: R. F. Bolt, M.R.C.S., L.R.C.P. *House Physicians*: J. M. Lang, M.B., Ch.B. Glasgow, and D. W. Rintoul, M.B., Ch.B. St. Andrew's. *Casualty House Surgeon*: G. A. Smyth, B.A. Cantab., M.R.C.S., L.R.C.P.

Royal Hospital for Sick Children and Women.—The following appointments have recently been made:—*House Surgeons*: G. S. Griffiths, M.R.C.S., L.R.C.P., and W. A. Reynolds, M.B., Ch.B.

Cossham Hospital.—E. S. Abraham, M.R.C.S., L.R.C.P.

Winsley Sanatorium.—Charles J. Alexander, M.B., B.Ch., B.A.O., has been appointed Resident Medical Officer, *vice* Leonard Crossley, M.D., appointed Tuberculosis Officer, County of Wilts.

CAPTAIN W. T. MCCOWEN.—"The Secretary of State for India has been pleased to request the Government of India to convey the thanks of His Majesty's Government to Captain W. T. McCowen, I.M.S., for the services he rendered on the occasion of the attack upon Acting-Consul Smart, near Kazerun, in December, 1911." Captain McCowen was at one time Junior House Surgeon and Ophthalmic House Surgeon at the Bristol Royal Infirmary.

INDEX.

Abdominal pain, Causes of chronic recurrent, 282.
Alexander, Dr. D. A.—Raynaud's disease, 247.
Alimentary canal, Sensibility of the, 256.

Barber surgeons, The—Dr. G. Parker, 327.
Benzene derivatives, The relationship between toxicity and chemical reactivity in certain—Dr. O. C. M. Davis, 237.
Bismuth meals, 70, 253, 350.

Books, Reviews of—
Alderson, Dr. W. E.—Dental anæsthetics, 272.
Allbutt and Dr. H. D. Rolleston, Sir T. C. [Eds.]—A system of medicine, 74.
Allyl sulphide in treatment of tuberculosis and lupus—Dr. W. C. Minchin, 271.
Ambulance examination questions—Dr. D. M. Macdonald, 83.
Anæsthesia and analgesia—Dr. J. D. Mortimer, 160.
Anæsthetics, Dental—Dr. W. E. Alderson, 272.
Anæsthetics, Practical—H. E. G. Boyle, 173.
Anatomy, Practical—F. G. Parsons and Dr. W. Wright, 262.
Asthma, Bronchial—Dr. J. B. Berkhart, 267.
Bell, Dr. W. B.—The principles of gynæcology, 363.
Berkhart, Dr. J. B.—Bronchial asthma, 267.
Bidwell, L. A.—Minor surgery, 161.
Bone, The growth of—W. Macewen, 161.
Bones and joints, Deformities, including diseases of—A. H. Tubby, 264.
Bones and joints, Tuberculous diseases of—Sir W. W. Cheyne, 75.
Boyle, H. E. G.—Practical anæsthetics, 173.
Brockbank, Dr. E. M.—Children, their care and management, 366.
Bulletin of the committee for the study of special diseases, 171.
Burghard, Sir W. W. Cheyne and F. F.—Manual of surgical treatment, 162.
Candy, H.—Manual of physics for students of medicine, 83.
Carbonic-acid snow as a therapeutic agent—Dr. R. C. Low, 82.
Catalogue (Index-) of the library of the Surgeon-General's office, 273.
Cheyne, Sir W. W.—Tuberculous diseases of bones and joints, 75.

Books, Reviews of (*continued*)—
Cheyne and F. F. Burghard, Sir W. W.—A manual of surgical treatment, 162.
Children, their care and management—Dr. E. M. Brockbank, 366.
Chirurgisches vademecum — Dr. A. Schönwerth, 172.
Choyce, Dr. C. C. [Ed.]—A system of surgery, 74.
Clinical methods—Drs. R. Hutchison and H. Rainy, 270.
Consumption, Home-treatment of—Dr. H. W. Crowe, 268.
Crowe, Dr. H. W.—Consumption: treatment at home, 268.
Deaf child, The—Dr. J. K. Love, 266.
Deformities—A. H. Tubby, 264.
Dental caries, Prevention of—Dr. H. P. Pickerill, 273.
Dermatology, An introduction to—Dr. N. Walker, 80.
Dickey, Dr. J. S.—Applied anatomy of the lungs and pleural membranes, 263.
Ear, Diseases of the—Drs. W. Milligan and W. Wingrave, 167.
Ehrlich and S. Hata, P.—The experimental chemotherapy of spirilloses, 77.
Ely, Dr. L. W.—Joint tuberculosis, 163.
Emergencies of general practice—Drs. P. Sargent and A. E. Russell, 269.
Fearis, Dr. W. H.—The treatment of tuberculosis by means of immune substances, 359.
Feeble-mindedness in children of school age—Dr. C. P. Lapage, 81.
Fernie, Dr. W. T.—Health to date, 269.
First-aid charts—Dr. E. C. B. Ibotson, 173.
Fordyce, Dr. H. D.—The care of infants and young children, 271.
Fortescue-Brickdale, E. W. H. Groves and Dr. J. M.—Text-book for nurses, 365.
Fractures by mobilisation and massage, Treatment of—Dr. J. B. Mennell, 78.
Griffiths, Dr. F. G.—Studies in pulmonary tuberculosis, 268.
Groves, E. W. H.—A synopsis of surgery, 172.
Groves and Dr. J. M. Fortescue-Brickdale, E. W. H.—Text-book for nurses, 365.
Gynæcology, Principles of—Dr. W. B. Bell, 363.
Harris, Dr. A.—The etiology, diagnosis and prophylaxis of pulmonary phthisis, 267.
Hata, P. Ehrlich and S.—The experimental chemotherapy of spirilloses, 77.
Health to date—Dr. W. T. Fernie, 269.
Heredity, Some points in—Dr. R. C. Lucas, 270.
Hutchison and H. Rainy, Drs. R.—Clinical methods, 270.
Hygiene and public health—Sir A. Whitelegge and Sir G. Newman, 80.

Books, Reviews of *(continued)*—
Ibotson, Dr. E. C. B.—First-aid charts, 173.
I. K. therapy, Treatment of tuberculosis by—Dr. W. H. Fearis, 359.
Infants and young children, The care of—Dr. H. D. Fordyce, 271.
Inoculation, An introduction to therapeutic—Dr. D. W. C. Jones, 82.
Internal secretion and the ductless glands—Dr. S. Vincent, 361.
Joint tuberculosis—Dr. L. W. Ely, 163.
Jones, Dr. D. W. C.—An introduction to therapeutic inoculation, 82.
Kenwood and W. G. Savage, Drs. H. R.—Public health laboratory work, 79.
Lapage, Dr. C. P.—Feeble-mindedness in children of school age, 81.
Lockwood, C. B.—Clinical surgery, 172.
Love, Dr. J. K.—The deaf child, 266.
Low, Dr. R. C.—Carbonic-acid snow as a therapeutic agent, 82.
Lucas, Dr. R. C.—The Bradshaw lecture, 270.
Lungs, Applied anatomy of the—Dr. J. S. Dickey, 263.
Lyle, Dr. H. W.—Manual of physiology, 83.
Macdonald, Dr. D. M.—Ambulance examination questions, 83.
Macewen, W.—The growth of bone, 161.
McHattie, Dr. T. J. T.—The educational treatment of stammering children, 270.
Marie, Dr. A. [Ed.]—Traité international de psychologie pathologique, 362.
Marshall, Dr. B.—A manual of midwifery, 160.
Martindale and Dr. W. W. Westcott, W. H.—Salvarsan, 77.
Massage, Treatment of fractures by—Dr. J. B. Mennell, 78.
Medicine, A system of—Sir T. C. Allbutt and Dr. H. D. Rolleston, 74.
Melville-Davison, Dr. W.—Ships' hygiene, 162.
Mennell, Dr. J. B.—The treatment of fractures by mobilisation and massage, 78.
Merck's annual report, 83.
Midwifery, A manual of—Dr. B. Marshall, 160.
Miles, A. Thomson and A.—Manual of surgery, 171.
Milligan and W. Wingrave, Drs. W.—Diseases of the ear, 167.
Minchin, Dr. W. C.—Treatment of tuberculosis and lupus with allyl sulphide, 271.
Morland, Drs. C. Riviere and E.—Tuberculin treatment, 168.
Morris, Sir M.—Diseases of the skin, 273.
Mortimer, Dr. J. D.—Anæsthesia and analgesia, 160.
Mülzer, Dr. P.—The therapy of syphilis, 271.
Newman, Sir A. Whitelegge and Sir A.—Hygiene and public health, 80.
Nurses, Text-book for—E. W. H. Groves and Dr. J. M. Fortescue-Brickdale, 365.
Parsons and Dr. W. Wright, F. G.—Practical anatomy, 262.
Phthisis, Etiology, diagnosis and prophylaxis of pulmonary—Dr. A. Harris, 267.
Physics, Manual of—H. Candy, 83.
Physiology, Manual of—Dr. H. W. Lyle, 83.
Pickerill, Dr. H. P.—The prevention of dental caries and oral sepsis, 273.
Psychologie pathologique, Traité international de—Dr. A. Marie [Ed.], 362.
Public health laboratory work—Drs. H. R. Kenwood and W. G. Savage, 79.
Rainy, Drs. R. Hutchison and H.—Clinical methods, 270.
Rawling, Dr. L. B.—Landmarks and surface markings of the human body, 80.
Riviere and E. Morland, Drs. C.—Tuberculin treatment, 168.
Rolleston, Sir T. C. Allbutt and Dr. H. D.—A system of medicine, 74.
Russell, Drs. P. Sargent and A. E.—Emergencies of general practice, 269.
Salvarsan—W. H. Martindale and Dr. W. W. Westcott, 77.
Salvarsan, The treatment of syphilis with—Dr. W. Wechselmann, 77.
Sargent and A. E. Russell, Drs. P.—Emergencies of general practice, 269.
Savage, Drs. H. R. Kenwood and W. G.—Public health laboratory work, 79.
Schönwerth, Dr. A.—Chirurgisches vademecum, 172.
Ships' hygiene—Dr. W. Melville-Davison, 162.
Skin, Diseases of the—Sir M. Morris, 273.
Smith, J. S. K.—Lateral curvature of the spine, 269.
Spinal cord, Diseases of the—Dr. R. T. Williamson, 80.
Spine, Lateral curvature of the—J. S. K. Smith, 269.
Spirilloses, The experimental chemotherapy of—P. Ehrlich and S. Hata, 77.
Stammering children, The educational treatment of—Dr. T. J. T. McHattie, 270.
Surface markings of the human body—Dr. L. B. Rawling, 80.
Surgery, Clinical—C. B. Lockwood, 172.
Surgery, Manual of—A. Thomson and A. Miles, 171.
Surgery, Minor—L. A. Bidwell, 161.
Surgery, Synopsis of—E. W. H. Groves, 172.
Surgery, System of—Dr. C. C. Choyce, 74.
Surgical applied anatomy—Sir F. Treves, 173.
Surgical treatment, A manual of—Sir W. W. Cheyne and F. F. Burghard, 162.
Syphilis, The therapy of—Dr. P. Mülzer, 271.
Syphilis with salvarsan, The treatment of—Dr. W. Wechselmann, 77.
Thomson and A. Miles, A.—Manual of surgery, 171.
Thyroid therapy. Theory and practice of—H. E. Waller, 81.
Treves, Sir F.—Surgical applied anatomy, 173.
Tubby, A. H.—Deformities, including diseases of the bones and joints, 264.
Tuberculin treatment—Drs. C. Riviere and E. Morland, 168.
Tuberculosis and lupus with allyl sulphide, Treatment of—Dr. W. C. Minchin, 271.
Tuberculosis, Joint—Dr. L. W. Ely, 163.
Tuberculosis, Studies in pulmonary—Dr. F. G. Griffiths, 268.
Tuberculosis, Treatment of, by immune substances—Dr. W. H. Fearis, 359.
Tuberculous diseases of bones and joints—Sir W. W. Cheyne, 75.
Vincent, Dr. S.—Internal secretion and the ductless glands, 361.
Walker, Dr. N.—An introduction to dermatology, 80.
Waller, H. E.—Theory and practice of thyroid therapy, 81.

Books, Reviews of (*continued*)—
Wechselmann, Dr. W.—The treatment of syphilis with salvarsan, 77.
Westcott, W. H. Martindale and Dr. W. W. —Salvarsan, 77.
"Where the world ends," 81.
Whitelegge and Sir G. Newman, Sir A.—Hygiene and public health, 80.
Williamson, Dr. R. T.—Diseases of the spinal cord, 80.
Wingrave, Drs. W. Milligan and W.—Diseases of the ear, 167.
Wright, F. G. Parsons and Dr. W.—Practical anatomy, 262.
Breast, The differential diagnosis of swelling in the—C. A. Morton, 121.
Bristol Medico-Chirurgical Society, 89, 187, 282, 376.
Bristol medical library—C. K. Rudge, 344.
Bullen, F. St. J.—Some remarks on insanity, 205.

Carrick, Dr. A., and Bristol Medical Library Society, 174.
Carwardine, T.—Report on surgery, 257.
Chitty, H.—The artificial production of pneumothorax in phthisis, 141.
Clarke, Dr. J. M.—A case of chronic interstitial pancreatitis of uncertain origin, 25; Intra-cranial complications of ear disease, 97.
Constipation, Dietary treatment of, 353.
Coombs, Dr. C.—Report on medicine, 64.
Cotton, Dr. W.—The right and the wrong side of the X-ray picture: has a mistake been made? 227.
Cranial complications of ear disease, Intra- —Drs. J. M. Clarke and J. L. Firth, 97.

Davies, Dr. D. S.—An enemy of the people—tuberculosis and natural selection, 135.
Davis, Dr. O. C. M.—The relationship between toxicity and chemical reactivity in certain benzene derivatives, 237.
Diagnosis in acute intestinal obstruction, Some cases illustrating the difficulty and importance of early—E. W. Hey Groves, 37.
Diphtheria, Pseudo-, due to diplococcus crassus, 90.
Diseases bearing names of saints—Dr. R. Fletcher, 295.
Dreams and their significance, Notes on—Dr. G. H. Savage, 156.
Duodenum, Direct medication of, 353.

Eadon, W. F. B.—Obituary notice of, 285.
Ear disease, Intra-cranial complications of—Drs. J. M. Clarke and J. L. Firth, 97.
Edgeworth, Drs. E. L. Lees and F. H.—Notes on an unusual case of Hodgkin's disease, 150.
Editorial notes, 84, 174, 274, 367.
Education, The problem of medical—Dr. W. C. Swayne, 316.
Evans, U. W., Obituary notice of, 287.

Feeble-minded, Association for the permanent care of the, 177.
Female generative organs, Pain in diseases of, 283.
Fibromyomata of uterus causing obscure symptoms, 73.
Firth, Dr. J. L.—Intra-cranial complications of ear disease, 97.
Fletcher, Dr. R.—On some diseases bearing names of saints, 295.
Fletcher, Dr. R., Obituary notice of—Sir W. Osler, 289; editorial notes, 191, 367.
Fortescue-Brickdale, Dr. J. M.—Report on medicine, 350.
Fractures treated by intra-medullary pegs, 188.
Fuller, J., Obituary notice of, 383.

Gall-bladder cases presenting features of interest—Dr. E. Stack, 49.
Gastric analysis, 251.
Gastric super-acidity, Occurrence and treatment of, 381.
Glycyl tryptophane test, 254.
Groves, E. W. H.—Some cases illustrating the difficulty and importance of early diagnosis in acute intestinal obstruction, 37; Report on surgery, 68.

Heart-block occurring in acute rheumatism, 92.
Heroin habit, Case of—Dr. J. O. Symes, 153.
Hodgkin's disease, An unusual case of—Drs. E. L. Lees and F. H. Edgeworth, 150.

Immunity, Tuberculin and—Dr. J. W. Taylor, 338.

Insanity, Some remarks on—F. St. J. Bullen, 205.
Intestinal obstruction, Cases illustrating the difficulty and importance of early diagnosis in acute—E. W. H. Groves, 37.
Irido-cyclitis, 261.

Knee-joint, End-results of 41 operations for internal derangements of the—Dr. A. R. Short, 52.

Laryngoscopy, bronchoscopy, and œsophagoscopy, Direct—Dr. P. Watson-Williams, 11.
Lees and F. H. Edgeworth, Drs. E. L.—Notes on an unusual case of Hodgkin's disease, 150.
Leprosy in South Africa, 192.
Leptothrix blood infection, Fever due to, 89.
Library, Bristol medical—C. K. Rudge, 344.
Library of the Bristol Medico-Chirurgical Society, 87, 184, 280, 344, 373; Annual report, 376.
Lister: an appreciation—Dr. R. Roxburgh, 1.
Local medical notes, 94, 191, 287, 383.

Mariette, Dr. E.—Personal experience of pneumothorax in phthisis, 189.
Maurice, O. C., Death of, 181.
Medicine, Reports on — Dr. C. Coombs, 64; Dr. J. M. Fortescue-Brickdale, 350; Dr. J. A. Nixon, 251.
Miner's nystagmus, 259.
Morton, C. A.—The differential diagnosis of swelling in the breast, 121.

Nixon, Dr. J. A.—Report on medicine, 251.
Nose and pharynx, Tuberculosis of the—Dr. A. J. Wright, 45.

Obituary, 93, 285, 289, 382.
Obstetrics, Report on — D. C. Rayner, 72.
Ogilvy, Dr. A.—Report on ophthalmology, 259.
Ophthalmology, Report on—Dr. A. Ogilvy, 259.
Osler, Sir W.—Robert Fletcher, 289.

Pain, Causes of chronic recurrent abdominal, 282.
Palate, innervation of the, 188.
Pancreatitis, Case of chronic interstitial—Dr. J. M. Clarke, 25.
Parker, Dr. G.—The barber surgeons, 327.
Parsons, J. F., Obituary notice of, 93.
Pericarditis, 64.
Phthisis, Artificial production of pneumothorax in — H. Chitty, 141.
Phthisis, Personal experience of pneumothorax in — Dr. E. Mariette, 189.
Pituitrin, Use in obstetrics, 72.
Pneumothorax, Cases of, 90.
Pneumothorax, Artificial production of in phthisis—H. Chitty, 141; Personal experience of — Dr. E. Mariette, 189.
Precocious development, Case of, 188.
Pregnancy, Operations on the uterus and appendages during—Dr. W. C. Swayne, 31.
Prichard, Dr. J. C., and Bristol Medical Library Society, 174.
Pyloric stenosis, Congenital, 378.
Pyocyaneus septicæmia, Case of, 379.

Raynaud's disease—Dr. D. A. Alexander, 247.
Rayner, D. C.—Report on obstetrics, 72.
Rheumatic anthritis in a child, 380.
Roxburgh, Dr. R.—Lister: an appreciation, 1; Tuberculosis, 193.
Rudge, C. K.—The Bristol medical library 344.

Saints, On some diseases bearing names of—Dr. R. Fletcher, 295.
Savage, Sir G. H.—Notes on some dreams and their significance, 156.
Scrofulosis, 261.
Short, Dr. A. R.—The end-results of 41 operations for internal derangements of the knee-joint, 52.

Sick, Preparations for the:
Agarase, 86.
Asensitine, 279.
Atophan-Schering, 371.
Balmosa, 278.
Cascaromat, 86.
Codeonal, 372.

Sick. Preparations for the : (*con.*)
Collosal argentum, 85, 181.
,, hydrargyrum, 85, 181.
Cystopurin, 371.
Dental hypodermic syringe, 183.
Digipuratum, 182.
Elixir pro pertussi, 279.
Eucerinum, 182.
Gelatine capsules, Flexible, 279.
Glaxo, 276.
Glycerole lecithin, 278.
Guttaplasts, 182.
Hydrastinin-hydrochl. 279.
Hyposal ampoule-syringe, 277.
Iodex c methyl salicylat, 183.
Kaloof compress, 372.
Kerol, 276.
Laibose, 276.
Leucoplasts, 182.
Levico water, 277.
Malt extract with iron iodide, 278.
Malt-glidine, 371.
Milk-chocolate peptonised, 372.
Neutrigen tonic food, 372.
Nivea soap, 182.
Ovogal, 86.
Palatinoid carophylli pulv., 278.
Paroleine spray compound, 370.
Peristaltine ciba, 86.
Pituitary extract, 279.
Pond's plasters, 183.
Sal antisepticus, 86.
Sapo antisepticus etherius, 279.
Tabloid epinine compound, 370.
,, hypodermic ergamine, 369.
,, ophthalmic physostigmine salicylate, 370.
,, ophthalmic pilocarpine nitrate, 370.
Thaolayine, 86.
Tromner elixir of cod liver oil, 181.
Unguentum iothion, 279.
Ureabromin, 182.
Vaginal douche tablets, 279.
Vaporole ammonium chloride inhaler attachment, 84.
Zematone, 183.
Siddall, Dr. J. B., 84.
Sinus thrombosis, Three cases of lateral, 91.
Smith, Dr. R. S., Resignation as editor, 369, 377.
Society, Bristol Medico-Chirurgical, 89, 187, 282, 376.
Stack, Dr. E.—Some gall-bladder cases presenting features of interest, 49.
Stoke-Adams syndrome, 89.
Stomach, Ulcers of, surgery of, 68.
Stomach, Ulcers of, Symptomatology of, 69, 255, 351.
Stomach, Ulcers of, Treatment of acute perforating, 257.
Surgery, Reports on — T. Carwardine, 257; E. W. H. Groves, 68; C. F. Walters, 354.
Suture of arteries, 354.
Swayne, Dr. W. C.—Operations on the uterus and appendages during pregnancy, 31; The problem of medical education, 316.
Symes, Dr. J. O.—A case of the heroin habit, 153.
Syphilitic eye affections, 261.

Tayler, G. C., Obituary notice of, 382.
Taylor, Dr. J. W.—Tuberculin and immunity, 338.
Tuberculin and immunity—Dr. J. W. Taylor, 338.
Tuberculin and tuberculosis, 180.
Tuberculosis—Dr. R. Roxburgh, 193.
Tuberculosis and natural selection—Dr. D. S. Davies, 135.
Tuberculosis of the nose and pharynx—Dr. A. J. Wright, 45.
Tuberculosis officer, The whole-time, 274.

Ulcers of the stomach and duodenum, Acute perforating, 257.
Ulcers of the stomach and duodenum, Symptomatology of, 69, 255, 351.
Uterine operations during pregnancy—Dr. W. C. Swayne, 31.
Uterus, Fibromyomata of, Obscure symptoms caused by, 73.

Vascular system, Surgery of the, 354.

Walters, C. F.—Report on surgery, 354.
Watson-Williams, Dr. P.—Direct laryngoscopy, bronchoscopy, and œsophagoscopy, 11.
Wright, Dr. A. J.—Some observations on tuberculosis of the nose and pharynx, 45.

X-ray picture, The right and wrong side of the—Dr. W. Cotton, 227.
X-rays in gastric diagnosis, 70, 253, 350.

DECEMBER, 1912.

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CONTENTS.

	Page
Robert Fletcher. By Sir WILLIAM OSLER, Bart., M.D., F.R.S. ...	289
On Some Diseases Bearing Names of Saints. By ROBERT FLETCHER, M.D. Columbia and Bristol, M.R.C.S.	295
The Problem of Medical Education. By WALTER C. SWAYNE, M.D. Lond. and Bristol	316
The Barber Surgeons. By GEORGE PARKER, M.D., M.A. Cantab. ...	327
Tuberculin and Immunity. By JOHN WM. TAYLOR, M.D. Bristol ...	338
The Bristol Medical Library. By C. KING RUDGE, M.R.C.S. Eng., L.R.C.P., Lond.	344
Progress of the Medical Sciences:	
Medicine. By J. M. FORTESCUE-BRICKDALE, M.A., M.D., B.Ch. Oxon.	350
Surgery. C. FERRIER WALTERS, F.R.C.S.	354
Reviews of Books	359
Editorial Notes	367
Notes on Preparations for the Sick	369
The Library of the Bristol Medico-Chirurgical Society	373
Meetings of Societies	376
Obituary Notices	382
Local Medical Notes	383

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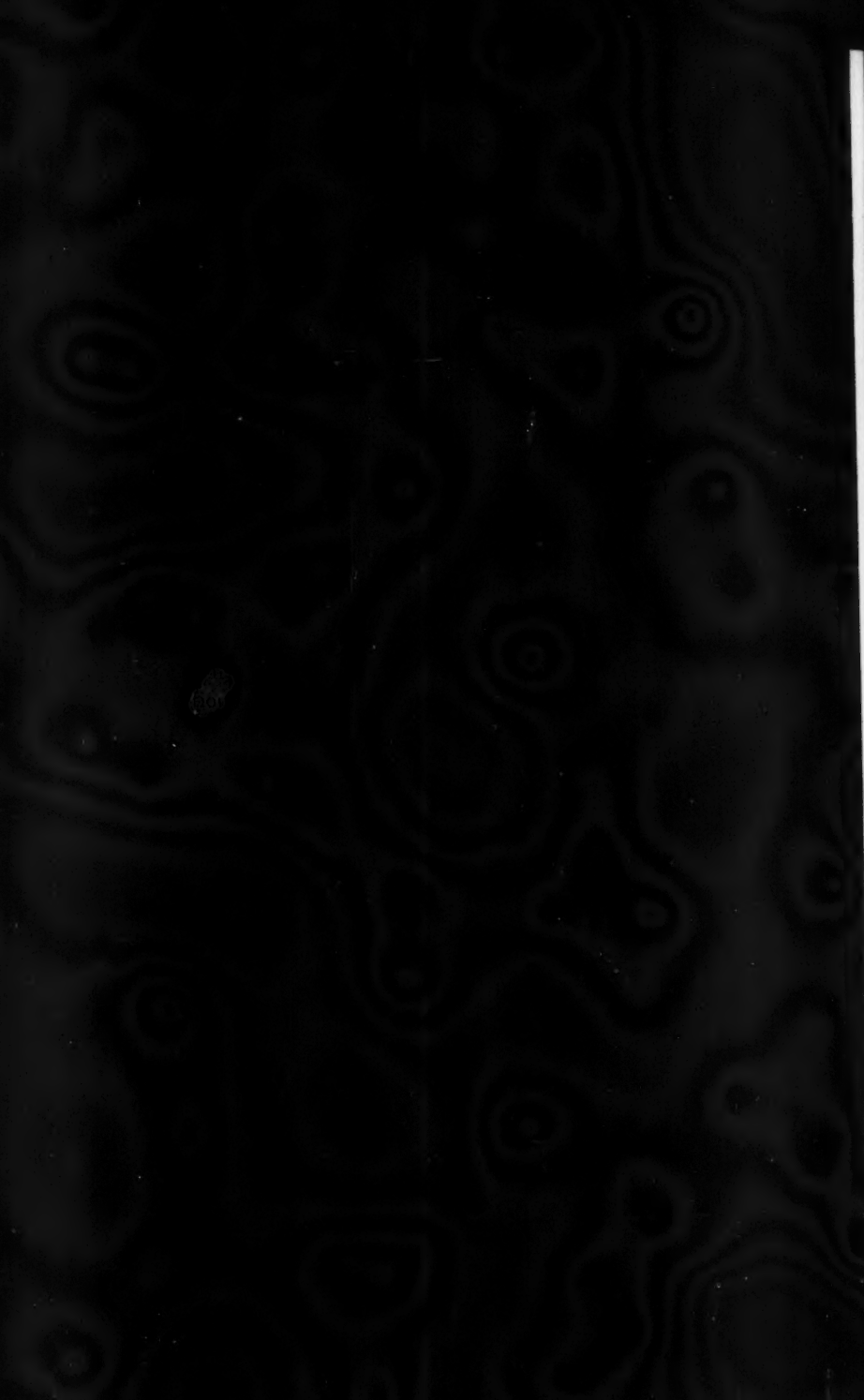

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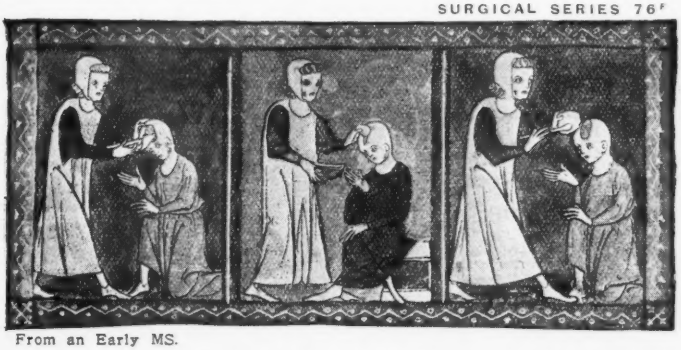

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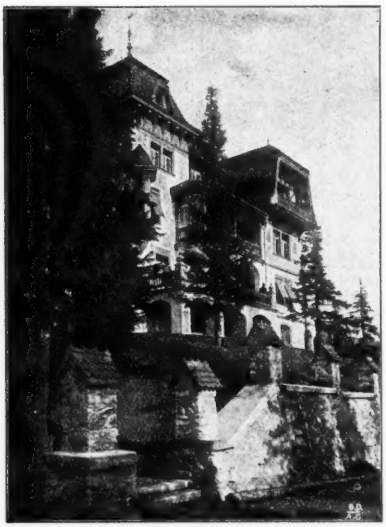

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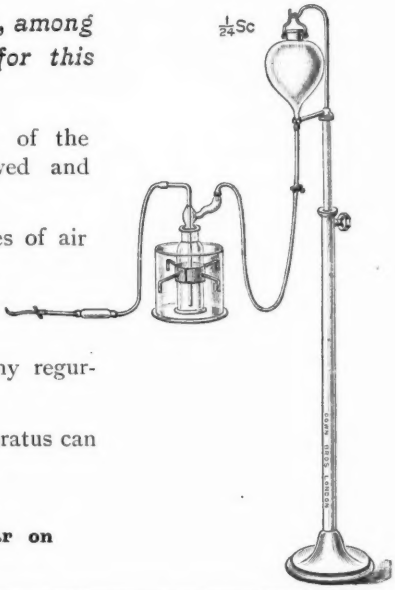

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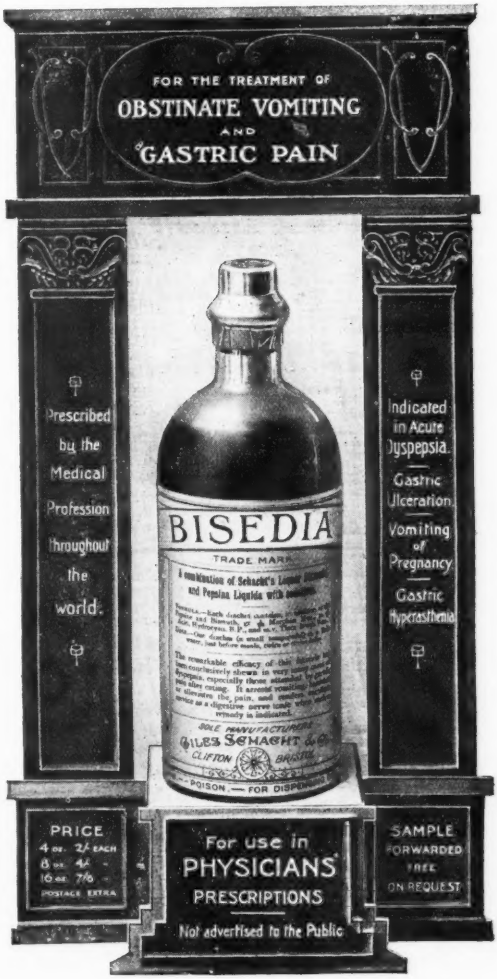
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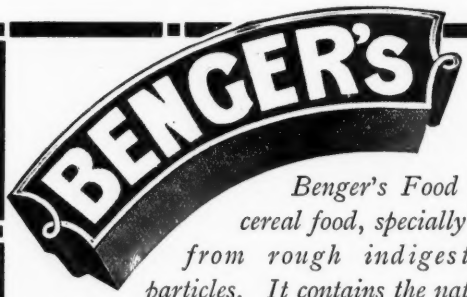

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